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ABSTRACT

The National Institute of Education supported a program of basic research studies dealing with career decision-making processes among high school and college students and the career experiences of youthful workers from 1976 through 1979. The 11 studies funded under this grants competition are diverse. Some examine the experiences of secondary students while in school; others consider how such experiences relate to students' postsecondary educational and work histories. More than half the projects focus on college students. Some of these are restricted to what happens to students in school, while others trace their work experiences after graduation. The studies also trace the decision-making processes of students of different races, backgrounds, and both sexes. A review of the studies concluded the following: (1) educational attainment, educational experiences, and educational decision-making all matter a great deal; (2) it cannot be assumed that the actual course of career decision making approximates at all the idealized models so prominent in the literature; (3) it also should not be assumed that all that is required for effective career planning is to get youth to act like the future-oriented rational actors implied in such models--having well-conceived goals no doubt is important, but youth also have to be prepared for the realities of the world; (4) optimizing often involves trading off competing values; (5) finally, many factors contribute to the different levels of occupational success experienced by men and women, blacks and whites, and youth from various backgrounds. (The 11 studies are synopsized and reviewed in the report.) (KC)

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# The Practical Implications of Research on Career Decision-Making and Career Development: A Review of Eleven Studies Supported by The National Institute of Education*

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## Section I

### Introduction

From 1976 through 1979, The National Institute of Education supported a program of basic research studies dealing with career decision-making processes among high school and college students and the career experiences of youthful workers. These studies now have been completed, and the present report attempts a stocktaking of what has been learned from them. In reviewing these projects, I will be particularly interested in what they have to offer to those involved in the vocational guidance and counseling of youth as they progress through the educational system and prepare themselves for work. In Section II, below, I try to organize what I believe are these studies' important practical contributions. To lay the groundwork for the review itself, however, I will first briefly discuss the grants competition which set in motion this entire enterprise and will provide an overview of the studies it supported, eleven in all. These studies are the raw material for what follows.

### The Basic Research Grants Program

As part of its effort to formulate and sustain a comprehensive research and development program in the area of career development, the Education and Work Group of the Institute* in 1976 invited submission of proposals to conduct basic research in the area of career decision-making. The Education and Work

*In 1978 redesignated the Home, Community and Work Group.

Group saw the grants competition as an important vehicle for pursuing its two primary goals as an agency of the Institute: to improve understanding of the relationship between education and work; and, to increase the contribution education makes to individuals' abilities to choose, enter and progress in work that is beneficial to themselves and others.

This statement of goals, in subtle fashion, expresses the interconnectedness of basic research and policy applications: understanding, it is hoped, precedes advice. The practical objective of the Education and Work Group's mission in this area of activity is to develop programs and activities which will assist individuals in their career-planning and help them in making wise educational and occupational decisions. Clearly, though, such programs and activities must be grounded in a sound knowledge base. Many believe that the most secure, if sometimes roundabout, route to such understanding is through basic research. The career development grants program reflects the Institute's and the Education and Work Group's commitment to basic research as an integral component of the Institute's mandate to help improve American education.

The 1976 grants competition identified two priority areas in which it would entertain proposals: research on career decision-making processes; and research on pre-occupational interests and their contributions to occupational preferences. In the first area, it was specified that proposed research should concentrate on how and when career-relevant decisions occur, on the competencies, knowledge and skills that individuals make use of in decision-making and on the societal and institutional forces which constrain or enhance career-related decisions. The second research area was intended to probe how career-preferences emerge from an individual's broader interests.

Reflecting NIE's commitment to promoting educational equity, it was encouraged that research in both areas be sensitive, when possible, to differences in career processes between men and women, between racial-ethnic groups and between socio-cultural groups.

Eleven projects were funded under this grants competition. A general overview of them is provided next.

## The Eleven Studies

The eleven studies funded under the grants competition are quite diverse. All use some form of survey methodology, but there the commonality ends. Some examine the experiences of secondary students while in school; others consider how such experiences relate to students' postsecondary educational and work histories. More than half the projects focus on college students. Some of these, again, are restricted to what happens to students in school, while others trace their work experiences after graduation. The projects differ as well in the kinds of students they study. One is restricted to rural youth and several pertain only to white males. Many, however, contrast the decision-making processes of men and women, and others compare blacks and whites. Some of the studies provide broad national coverage, some are regional in scope and others sample only a handful of institutions purposively selected to satisfy criteria important to a particular study's objectives. These various study characteristics are summarized in Chart 1.

Chart 1 also identifies the major issues each project addresses (for further detail, project abstracts from the original proposals are reproduced in the appendix to this report). As the entries for the various

CHART 1
SUMMARY OF CAREER DEVELOPMENT PROJECTS

| STUDY | ISSUES | STAGE | | | SAMPLE | | DESIGN | TIME FRAME | SAMPLE SIZE |
|---|---|---|---|---|---|---|---|---|---|
| | | HIGH SCHOOL | COLLEGE | WORK | GENDER | RACE/ETH | | | |
| Cook and Alexander | Career planning and plans in the primary and secondary grades; Relevance of school achievements and experiences for job placement; Matching of adolescent interests with job routines. | X | | X | M;F | B;W | Longitudinal | 1961-1969 | About 3000 students from 27 high schools |
| Cosby | Predictability of educational level and occupational level from preferences, H.S. tracking and marriage plans, SES and ability; Sex-typing of preferences. | X | | X | M;F Rural Youth | B;W | Longitudinal | 1966-1972 | About 1000 students from 96 high schools |
| Gottfredson | Congruence between aspirations and attainments; Differential payoffs to education in different types of work; Patterns of mobility during career; Age, period and cohort differences. | | | X | M | B;W | Cohort/ Longitudinal | 1966-1971 | About 5000 respondents age 14-24 |
| Harren | Relevance of sex role attitudes and differences in cognitive style for occupational preferences and choice of college major; Sex-typing of choices. | | X | | M;F | W | Overlapping/ Longitudinal | 1976-1977 | About 500 students from 1 university and about 400 from 4 others |
| Jacobson, Waldenberg and Dresch | Differences in plans and labor market experiences by sex and marital status, family SES and ability; Shifts in goals; Importance of spouse's characteristics and mother's work patterns for women's attachment to work. | X | X | X | M;F | W | Longitudinal | 1973-1978 | About 3000 students; # of schools unknown |
| Karweit | Effects of prior work experience and economic conditions, marriage timing and other family events on patterns of school progression and enrollment discontinuity. | X (but analysis not setting specific) | X | X | M (age 30-39) | B;W | Cross-sectional/ Retrospective | 1968 | About 1500 respondents age 30-39 |
| Norris, Katz and Chapman | Patterns of career choice as revealed through SIGI (System of Interactive Guidance and Information); Sex-patterning of occupational interests and preferences. | | X | | M;F | B;W;Hisp. | Cross-sectional | mid 1970's | About 400 students from 6 colleges |
| Ochsner and Solmon | How are jobs related to major field of study; Changes in job choice and field choice; Use of college preparation in work; Job satisfaction. | | X | X | M;F | W | Longitudinal | 1970-1977 | About 4000 students; # of schools unknown |
| Spaeth | Sex differences in earnings from sex-typed occupational choices and employment sector; Returns on resources and work experience; Match of job with personality as source of satisfaction. | | X | X | M;F | W | Longitudinal | 1961-1968 | About 5000 students from 135 colleges |
| Tittle | Occupational and family values as factors in educational and occupational decision-making; Sex differences in occupational and family values. | X | | | M;F | B;W;Hisp. | Cross-sectional | 1977-1978 | About 600 students from 29 high schools |
| Weidman | Importance of normative climate of major department, relations with faculty, and general reaction to college experience as factors in occupational choice and in changing occupational values. | | X | | M;F | W | Longitudinal | 1966-1969 | About 3000 students from 72 colleges |

## List of Career Development Projects

M.A. Cook and K.L. Alexander, "Pre-Occupational Interests, Occupational Preferences and Work Experience: Career Development and Through Early Adulthood."

A.G. Cosby, "Career Decisions and Attainment of Rural Youth: Sex and Race Comparisons."

L.S. Gottfredson, "Change and Development in Careers."

V.A. Harren, "The Influence of Sex Roles and Cognitive Styles on the Career Decision-Making of College Men and Women."

A.L. Jacobson, A.L. Waldenberg and S.P. Dresch, "Perceptions, Expectations and Career Formation."

N. Karweit, "Continuing Education and Early Career Attainment: Determinants and Occupational Effects of Going Back to School."

L. Norris, M.R. Katz and W. Chapman, "Sex Differences in the Career Decision-Making Process."

N.L. Ochsner and L.C. Solmon, "College Education and Employment...The Recent Graduates." Several additional papers also were submitted by Solmon.

J.L. Spaeth, Several reports pertaining to earnings, job satisfaction, and employment.

C.K. Tittle, "Sex Role Values in the Career Decision-Making Process."

J.C. Weidman, "Impacts of Campus Experiences and Parental Socialization on Undergraduates' Career Choices."

studies suggest, the topical average across the eleven studies is quite broad.

This is both an asset and a liability insofar as the present effort is concerned. On the positive side, the studies, in their complementarity, provide good coverage of the issues specified in the original grants announcement. Considering the relatively small number of studies with which we are dealing, much more substantial gaps would not have been at all surprising.

This degree of breadth, however, comes at a price. Except for some very general topics (such as the patterning of race and gender differences in occupational aspirations and job rewards), there is very little redundancy across studies. Hence, within the set of projects itself, there often is little opportunity to cross-validate detailed conclusions. Since individual projects of this sort rarely are definitive, we obviously need to be cautious in generalizing from them.

The conclusions to be put forth in Section II have, however, been subject to several forms of quality control. I try to distinguish recurrent findings from those that are idiosyncratic and to give greater weight to those studies which, in my judgment, are sounder in research design and in data quality. I also have tried, informally, to judge the congruence of project conclusions with whatever other literatures might be available on the topic at issue. Where a project's results are at odds with the generally accepted conclusions from other sources, and there is no obvious basis for resolving the discrepancies, this clearly calls into question the credibility of those particular results and I discount them accordingly. I have, throughout, tried to be cautious in my claims and conclusions and would urge similar caution on the part of those

who might use this report in practice.

Returning to the content of these studies, we may note that there are several broad themes that cut across many of them. Most of them deal in some way with students' orientations toward the future -- their educational and occupational plans, the values they hope to realize through their work, and whether, in fact, they are actively planning for the future. These research studies usually consider how plans and values differ for youth from different family backgrounds, how they differ for boys and girls, and how they differ for blacks and whites; how such plans and values are influenced by various school experiences, such as the student's programs of study or their levels of school achievement; and, how such plans and values relate to other important value domains, such as plans for marriage and childrearing.

Another major focus of many of these projects is youths' work experience and occupational achievements after their schooling is completed. These projects consider a range of outcomes: job satisfaction; the extent to which work makes use of skills acquired while in school; earnings; occupational prestige; and the kinds of activities entailed in the work. The objective of most of these studies is to determine the extent to which such job outcomes are influenced by the youths' earlier experiences while in school -- their plans for the future, their academic performance, their programs of study -- as well as by other social conditions, such as their family background as youth and marital cricumstances as adults.

Several of these studies also examine patterns of career mobility and the job shifting that occurs in the early years of workers' job histories. Finally, many also contrast the experiences of men and women and blacks and whites along these various lines.

Obviously, in a few brief paragraphs it would be impossible to convey all of the issues covered in these studies. I hope that the above comments afford at least a sense of what these projects are about. In combination, they provide rich descriptive detail on the circumstances in which various sorts of youth find themselves at different levels of schooling in their work situations. Additionally, they demonstrate how conditions and experiences at earlier phases of the career decision-making and career development processes relate to experiences and outcomes at later phases, both while still in school and afterwards. What I hope to do is to extract from this wealth of detail and description the bits and pieces that would be most useful to practitioners in their work with youth who now are passing through the phases of the career development process considered in these studies. This is the objective of Section II of this report, which follows below. First, however, I would like to make a few further comments on the intentions and the limitations of this review.

A Note on Basic Research and Policy Applications

One point must be emphasized from the outset. The program of research with which this report is concerned was intended to provide basic knowledge regarding the processes and conditions of career development. It is hoped, to be sure, and expected eventually, that such inquiry will have practical benefit and prove useful in program development and policy-making, but there

can be no assurance that any such project, or even a cluster of such projects, will be immediately useful in these ways. They seek, rather, to further knowledge, and whether or how this new knowledge improves practice is itself outside the scope of basic research.

If such activity proves barren in the long run, it should wither and fade; in the short-run, however, it's value is not judged by the criterion of practicality. In fact, projects with a more applied focus were explicitly precluded from the grants competition. Proposals involving development, demonstration or program operations were declared ineligible. Additionally, although not formally precluded from the competition, none of the projects that was funded involved the evaluation of existing career development programs or interventions.

These eleven projects, then, all were intended primarily to enhance understanding of the particular issues with which they dealt. They did not propose policy or evaluate programs, and funding of them was not contingent on whether they themselves would improve anyone's career-planning or career progress or even whether they would provide an information base that could be used by others to this end. In a very real sense, then, the present retrospective on these studies seeks from them that which we have no right to expect of them. Of course, we should hope that useful insights could be culled from the several thousand pages of these reports, but failure to do so would not in itself be an indictment of the research program.

This tension between wanting to <u>know</u> and wanting to <u>use</u> is critical to the distinction between basic and applied research. What the present report attempts to do, then, is to discern the applied insights that happen to fall out from a program of basic research.

This is an unusual and exciting undertaking. Unusual because such stock-takings are all too rare; exciting because of the potential for realizing unanticipated benefit from the research process.

As was mentioned above, these eleven projects are rich in descriptive detail. They provide much insight into the patterns and processes of career planning and how youth fare in their initial forays into the world of work. In so doing, they focus in on three critically important stages of career preparation: the high school years; the college years; and, the transition from school to work. In terms of the populations they sample from, these studies afford good coverage of the major sociodemographic divisions in our pluralistic society: blacks and whites; men and women; youth from lower status and upper status backgrounds. Some of the studies also single out rural youth and Hispanic Americans for special consideration, although representation of these groups is far less satisfactory than for the others.

In the review that follows I attempt to select out from this material those patterns and conclusions which seem especially relevant to the kinds of issues that career counselors must confront on a daily basis. What these studies offer most immediately to practitioners are focused descriptions of the typical experiences of various kinds of youth, in various settings, at various stages of career preparation and progress. It is hoped that reliable knowledge about what actually goes on "out there" as youth move through the educational system and enter the world of work will prove a valuable resource to practitioners, who are, after all, the front line in pursuit of this grants program's ultimate purpose: to help youth make wise educational and occupational decisions.

## An Important Caution

The conclusions presented in the next section characterize, with reasonable fidelity, the typical experiences of different classes of youth during various phases of career development. As such, they reflect general trends averaged across the diverse experiences of similarly situated youth. Such generalizations cannot convey all the richness and detail that distinguish one youth's experiences from another's. In clinical application, therefore, considerable care must be exercised in applying these patterns to particular cases. They constitute additional information at the practitioner's disposal, which, I believe, can be of considerable value if used sensitively and thoughtfully. I cannot caution too strongly, however, against mechanistic reliance upon these generalizations as though they applied literally and in detail to all youth in the situations described, for clearly they do not. Moreover, to do so would simply mirror the world as we know it today. As is all too obvious, in a great many respects what is needed is positive change, not more of the same.

## Section II

### Introduction

In this section I review the content of these eleven studies. As mentioned earlier, I have sought neither to be exhaustive nor comprehensive. Rather, I am interested mainly in what these studies have to offer that might be of practical value. The nature of the grants program itself, and of the kinds of projects it was intended to support, obviously established limits, albeit broad ones, on what might reasonably be expected from the studies. And, not surprisingly, the projects themselves did conform to these general expectations. Being survey studies of the career decision-making and career experiences of youth, their informative value for practice resides largely in their descriptive detail.

The importance of having dependable knowledge regarding the present state of affairs is considerable. A firm grasp on "what is" would seem prerequisite to a proper appreciation of what "might be;" and it would seem similarly essential for plotting an effective course of action. But what exactly are the most critical information needs of counseling practitioners and their clients that these studies might be suited to address?

It's one thing to say generally that knowledge is useful and desirable, but quite another to decide exactly how to go about picking and choosing from the wealth of possibilities afforded by these projects. To complicate matters further, there is no absolute standard as to what is "most important" in any body of material; rather, such judgments must be made relative to the use to which the material is to be put. The most pressing questions

for the research community might well be quite different from those of practitioners, and neither researchers nor practitioners could be counted on to pose the questions that those responsible for making policy might most want answered.

On what basis, then, was I to sort out the various possibilities? To prejudge the issue, especially from an outsider's (i.e., non-practitioner's) vantage point, clearly seemed unwise. In planning for this project with NIE staff, we decided it made most sense to seek the advice of those in the best position to know, practitioners themselves. After some preliminary planning involving primarily NIE personnel (Dr. Carter Collins in particular), a panel of practitioner-advisors* was convened who graciously gave of their time and effort to help structure my work with these eleven projects. The panel was broadly representative of the audience for which this report is intended. Its members are involved in guidance and counseling at both the secondary and post-secondary educational levels, as well as in the private sector.

After being briefed on the grants competition generally and the content of the eleven projects specifically, the panel embarked on a day-long brainstorming session. The session itself was quite stimulating, with much give and take and, of course, a few digressions; on balance, however, it was a highly constructive day of concentrated effort. During the course of our discussions, many important issues came up which unfortunately had to be set aside as outside the scope of the eleven studies. Frustrating too was our inability to stretch the projects a bit further than they themselves had gone in certain lines of inquiry. Many times, we found ourselves saying, "if only they had asked..." or "why wasn't it looked at this way?", but such is the nature of hindsight. False starts and disappointments were to be expected. Still, in

*Members of the panel are listed in the Appendix.

light of them it is quite remarkable how much was accomplished that day.

As a result of that session, and further suggestions passed along in follow-up correspondance, a collection of general questions was amassed with which to approach the eleven studies. Upon reconsidering the projects with these particular issues in mind, it was apparent that some of the questions had not been addressed at all and that others would have to be somewhat recast if the studies were to speak to them. The panel's deliberations were not intended to give detailed direction but, rather, general guidance, and its efforts were quite successful in this regard. The panel made very substantial contributions to this undertaking, and I am grateful for them.

The review itself is presented in a question-answer format. The questions are basically those which emerged from the dialogue between myself, NIE staff and the practitioner panel. The answers represent my attempt to organize what the eleven projects have to say regarding these matters. No attempt will be made to document in detail the sources drawn upon in framing the answers. When, however, only a few studies are relevant to a topic or only one primary reference is used, this will be indicated for the benefit of readers who might wish to consult the originals. Generally, though, the answers will blend together materials from several studies. While I have attempted throughout to be faithful to the import of these projects, to document this fully would be both tedious and distracting.

The Questions

1. On the surface, at least, educational and economic opportunities appear much more widespread today than, say, during the decade of the fifties. The civil rights movement of the sixties and the women's movement of the seventies have heightened our sensitivity to patterns of discrimination and social inequality and the federal government has adopted many programs intended to make "the good life" more accessible to minorities and others who historically have been disadvantaged. In light of these developments, are such social background factors still strongly related to career attainment?

The eleven projects probably aren't as illuminating on this topic as would be desirable, but they nevertheless provide ample evidence that race, gender, and social/economic origins remain important considerations even today. Only one of the eleven studies (Gottfredson's) makes any attempt to compare current patterns of social inequality with those from earlier decades, so they really don't provide a basis for saying whether, or how much, things actually have changed. Additionally, the studies focus more on decision-making and how it relates to youths' experiences later, so their evidence on the patterning of inequality per se also is rather fragmentary. For these reasons, then, the projects do not provide great detail on this topic, and should not be read as the definitive or authoritative sources. Despite these very real limitations, however, they nevertheless do speak to the issue.

There actually are two important respects in which these sorts of background factors are linked to educational and occupational success, and both are apparent in these studies. The first involves advantages and disadvantages that are of an immediate nature: blacks, on the average, complete less formal schooling than whites, and black adult workers, again on the average, are employed in less prestigeful jobs and earn less than whites; women, in turn, obtain somewhat less education than men and earn considerably less than them.

The qualification "on the average" applies to these last differences as well, and, unless stated otherwise, this should be understood for all such comparisons between groups. There are, to be sure, many blacks and women whose individual accomplishments far outstrip that which is typical of whites as a group and men as a group, and we do not want to lose sight of this important fact. Still, my present goal is to obtain a sense of how minorities and disadvantaged groups fare in relative terms, and for this purpose the comparison of mean differences between groups is meaningful and appropriate.

Even where such mean differences in achievement levels are not especially great, however, other, more subtle, disparities may nevertheless exist. The prestige levels of men's and women's occupations provide a good illustration. The average prestige levels of men and women workers are quite similar, but women's occupations tend to be much more heavily concentrated in the middle of the prestige range. This reflects the traditional sex-typing of occupations, with women being employed disproportionately in white collar and lower professional positions. Thus, women's employment patterns are truncated relative to men's, and women find themselves overrepresented in jobs with relatively poor prospects for upward mobility (in terms of movement into higher prestige occupations) and for economic progress generally.

A third background element that is given much attention in these projects is the youth's family social or economic standing. This is indexed in various ways, including measures of father's and/or mother's educational level, of father's occupation (usually classified in terms of either its prestige or status level) or of family income. Regardless of how family standing is measured, it invariably shows up as having profound implications for children's

later educational and occupational prospects. In fact, achievement differences associated with family background usually greatly exceed those associated with either race or gender. This holds across the board, for educational level, occupational standing and earnings.

It is particularly important, I believe, that the continuing and pervasive importance of family social and economic standing be appreciated. The problems faced by women and minorities are serious to be sure and properly are the focus of much public debate and policy, yet the feature of social background most strongly linked to later life success is the social and economic standing of one's family. There are, of course, good reasons -- involving matters of law, politics and social history -- for the prominence accorded race and gender in consideration of educational and economic equity, but in so far as an individual's career prospects are concerned, these are <u>at least</u> as limited by family standing as they are by any other background elements.

The problems of women and minorities generally are recognized and people of good will are sensitive to them. Moreover, and as a practical matter, at least some segments of these communities are mobilized to pursue their self-interests collectively and to monitor both problems and progress. Youth who are distinguished only by virtue of their being at the low end of the social and economic continua can count on neither effective advocacy from within their "community" (if the notion of community even is applicable here) nor on aroused public awareness to protect and promote their interests. Their problems may be less salient, but that makes them no less severe, and this deserves recognition.

Thus, the background elements of race, gender and family standing all remain strongly and immediately related to various aspects of educational and occupational attainment. This probably will not prove too startling to many, yet it often is useful to have confirmation for what might seem obvious (but which might actually have been mistaken) and perhaps to help ward off complacency through an occasional reminder that problems persist. But I mentioned above that there is a second respect in which such factors have bearing upon one's prospects for success, and this one might be much less self-evident than the first.

Minorities and women often realize much less benefit than whites and men from the educationally and occupationally relevant resources that they do possess. This is most apparent in calculations of the so-called "returns to schooling." It generally is the case, of course, that the marketplace rewards high education. Highly educated workers tend to be paid more and to have higher prestige jobs than those who get less formal schooling. While this general pattern is observed for all classes of workers, the differences in rewards associated with differences in education are far less among women and blacks than among men and among whites. That is, additional years of schooling bring about much smaller gains in both earnings and occupational prestige for women than for men and for blacks than for whites. In this sense, "schooling" is a much less valuable commodity for minorities, although I would hasten to add that earnings levels and the prospects for high prestige employment even for blacks and for women still are much better at the higher ranges of the educational ladder than at the lower. Investments in education pay off for everyone, but the actual rates of return on those investments often are quite unequal.

These differences in the payoff to schooling are only one of many instances in which minorities in particular are not as successful in capitalizing upon assets as are whites. Ambition too doesn't appear to pay off nearly as well for blacks. Blacks are much less likely than whites to follow through on their educational plans and neither are they as successful as whites in translating their aspirations, as students, for high prestige occupations into high prestige employment as workers. The relationship between such plans and/or goals and later accomplishments often is taken in this literature as indexing how expectations and ambition contribute to success. If this interpretation is granted, these results suggest that "shooting high" is much less useful for some groups than for others.

I hasten to add again, however, that these are differences of degree. Among all groups, youth with high educational goals tend to go farther through school and youth who aspire to high level occupations are more likely to get them (although, in this last instance, accomplishments still tend to be lower than aspirations -- see my discussion of "realism" in plans, which is the subject of a later question).

Our studies do not reveal the reasons for these differences (some possibilities that have been advanced in the literature include discrimination, unmeasured differences in the quality, as opposed to the quantity, of schooling, lack of realism in the aspirations of youth, and, in the case of women, the tradeoff of work commitments for family commitments), but the pattern itself is of considerable importance. Some have suggested that the relatively low returns to investments in schooling and to high levels of ambition among minority youth have contributed to their rejection of traditional success values and strivings and to affective detachment from the mainstream of American

society generally. There is, however, no evidence in either these studies or in others of which we are aware to support these conclusions.

In recent years minority progress in the area of school attainments has outstripped any barometer of progress in the economic sphere, and minority aspirations, both educational and occupational, remain at least on a par with whites (in fact, many studies show blacks to express higher goals than whites -- see below). Women too voice occupational aspirations comparable to those of men, although for both blacks and women goals do appear to adjust downward over time as limited prospects for success become more apparent (a downward trend is observed for white men also, but it appears to be somewhat less pronounced). This last observation notwithstanding, it nevertheless appears that minority aspirations are high and educational opportunities remain highly regarded, despite the fact that neither goals nor reaching a particular level of schooling has the same economic value for minorities as it does for white males. This strikes me as rather impressive attachment to a system that has been so begrudging in its generosity to these groups.

Finally, there is one last respect in which the "payoff" to resources is not commensurate for minorities. Comparing blacks with whites, it appears that educational and economic success is much less closely tied to family social and economic standing among the former. This implies a perverse sort of egalitarianism in the minority community. In what supposedly is a family-based meritocracy, one important economic incentive is the desire to provide for one's family and to pass along opportunities to one's children so that they might realize at least the standard of living of the parent generation, and hopefully a better one. Successful blacks, though, fall far behind similarly successful whites in making available to their children the educational

and economic opportunities that ordinarily are associated with success. Conversely, the fate of children from less well-to-do minority families is less tied to such family circumstances than is the case among whites. These connections across generations are reflected in the correlations between educational and economic indicators in the parent and offspring generations, which consistently are lower among blacks.

Whether this pattern is desirable or not is difficult to say (much public policy, it seems, is directed toward relaxing these connections, especially for those at the lower end of the social and economic hierarchies), but it clearly is a difference, and one which distinguishes minority achievements from those of the white majority. In any event, the evidence seems to suggest that minority youth from disadvantaged families probably have better prospects for upward movement (setting aside, for the moment, disadvantages associated with race per se) than do similarly situated whites, and this may be of some comfort. At the other extreme, however, it suggests that minority youth from better off families are at greater risk of sliding downward (or at least of not themselves advancing as far) than are whites from comparable families. At the very least, then, such minority youth should know they cannot take for granted their favored social and economic prospects.

These findings serve as reminders that aspects of social background remain highly relevant to career attainment even today. This holds for differences associated with race, with gender and, especially,with family social/economic standing. Some of these differences are quite obvious, as in the average earnings gap between blacks and whites; some are quite subtle, as in women's and blacks' lesser prospects for realizing their goals; some differences clearly have shrunk in recent years, especially those having to do with

educational inequality; others seemingly have remained quite resiliant in the face of policies and programs intended to break down barriers. Although these details all are important, perhaps equally important is the general realization that problems, serious ones, remain.

2. It's all fine and good to be reminded that social inequality isn't merely a thing of the past, but this doesn't help us help anyone do better than he or she might have done otherwise. What do these studies tell us about how these patterns of unequal attainment come about?

Here again, our projects don't presume to deal with all the issues that bear upon this question. In fact, two of the most prominent answers to the question "why" aren't evaluated at all. One such explanation involves discrimination in its numerous guises as the root cause of the economic disadvantage experienced by minorities and others outside the mainstream of American society. The other, rooted in neoclassical economic theory, presumes that workers are rewarded at least roughly in proportion to their productivity. This explanation, then, assigns responsibility to the "deficiencies" of minorities, of women and of lower status individuals as workers, althouth it allows for many possibilities as to the origins of such failings.

Although these two possibilities are not evaluated explicitly in any of the projects presently under consideration, our studies are not alone in this oversight. The self-assured claims from proponents of both viewpoints notwithstanding, there actually is pitifully little research that even presumes to measure directly either discrimination or productivity. These must be acknowledged as important possibilities, but, in point of fact, at present there is little basis for determining either's actual contribution to present-day educational and economic inequality. My answer to this question, then, will be limited to those factors actually considered in our eleven projects.

I noted in response to the first question that certain patterns of unequal career success associated with race, gender and family social background continue even in today's more enlightened, more achievement-oriented American society. While research of the sort presently under study has indeed provided much insight into the basis for these unequal attainments, I must acknowledge from the outset that to date there has been no truly satisfactory empirical accounting for all of these differences and that, as mentioned above, some of the more plausible (or at least popular) explanations have hardly been tested out at all. This is not to say, however, that little of value has come from these efforts. Quite to the contrary, they actually are quite enlightening in many respects.

It will be convenient in the discussion that follows to distinguish between two broad categories of factors that bear upon one's prospects for occupational success. The first pertains to family and school influences that operate on youth before they actually enter the world of work. Generally, these involve socialization experiences and socializing agents relevant to success in school -- parents, school personnel and peer acquaintences. The second shifts attention to the post-schooling stage of career development and involves mainly work experiences themselves. Family factors are relevant here also, although these now involve mainly ties to one's own spouse and children rather than relationships with one's parents.

Some of the factors at issue in the present discussion may again seem rather obvious, but that makes them no less important. Moreover, having their importance convincingly documented may make it more difficult simply to pass over them than might have been the case otherwise. I refer here to considerations that revolve around traditional notions of academic success.

It turns out that most family influences on later occupational outcomes express themselves through their more immediate consequences for how youth fare in school. This clearly is the case for how family social and economic standing affect prospects for later life success, and it is relevant as well to many, but not all, of the black-white differences alluded to in response to the first question. It is well documented, for example, that youth from less well-to-do families are much less likely than their counterparts growing up in more favorable circumstances to find employment in high prestige, high paying jobs. These differences, however, are almost wholly accounted for by the fact that such youth tend not to go as far through school and hence do not reap the job advantages associated with higher levels of formal schooling. Simply put, advanced academic credentials are valuable assets in the competition for desirable employment, and being less likely to possess them places youth from economically or socially disadvantaged home backgrounds themselves at a decided disadvantage. In fact, equalizing educational levels would go a long way toward eliminating the occupational disadvantages associated with family social and economic background. It will be recalled from the discussion earlier that this aspect of social background has greater bearing on later career attainment than either race or gender, and its influence is especially pronounced in the educational domain.

Race differences in occupational level and earnings levels also appear to have their origins at least partly in what transpires in school. Although the differences between blacks and whites in average years of schooling completed is not nearly so great as the difference associated with family social

and economic level,* the gap that does exist nevertheless takes its toll. Additionally, as mentioned earlier, black youth also suffer from not being able to "cash in" on the academic credentials they do acquire to nearly the same extent as whites. Although blacks' career prospects are depressed by these dual educational criteria, the evidence also indicates that this is only part of the answer. Even comparing blacks and whites with similar educational credentials and taking into account differences in the expected payoff of those credentials, blacks still are more often employed in lower level jobs and are paid less. Thus, while improving educational prospects for blacks no doubt would be beneficial, this alone would not bring about equivalent career outcomes for black and white youth.

Differences in school attainments appear even less relevant to the different levels of career attainment characteristic of men and women. In large measure this is because their school attainments are so similar. The gap in average years of schooling completed by men and women is not very great, and in other respects women actually benefit from educational advantages relative to men. For example, they tend to outperform men while in school. While we should not lose sight of the fact that educational credentials don't carry the same value for women as for men, on balance it appears that the reasons for women's poorer career prospects do not have much to do with differences in school attainments.

To this point, I've observed that most of the occupational disadvantages associated with low family social and economic background and much of that

*Minority families do, of course, tend to fall disproportionately at the low end of the social and economic hierarchies, so that any liability associated with family standing, even though not involving race per se, will nevertheless weigh especially upon the minority community. It is important for purposes of discussion to keep separate racial and economic disadvantages, but in doing so we should not forget that they tend to fall together in the real world.

having to do with race revolve around differences in school success. Youth from less well-off families and blacks tend not to go as far through school as do children from better-off families and whites, and this has repercussions for how they fare in the labor market. One practical suggestion, then, would be to encourage these youth to persist in school longer. But this simply substitutes one question for another, for now we would want to know what it is that accounts for these very important differences in levels of educational attainment. Our projects offer at least some partial answers here as well.

One very important consideration is that minorities and youth from lower socioeconomic families score much lower on tests of academic competency than do their white classmates and their peers from higher status households. Such tests, of course, have themselves been the focus of much controversy -- involving disputes over the qualities they tap, the origins of those qualities and whether, as measurement instruments, they are biased against minorities and certain sociocultural groups. While these issues must be acknowledged, I can do little more than that in the present context. It simply would take me too far afield to pursue them in any depth. Moreover, from a practical viewpoint, the resolution of these controversies would have little bearing on the use I would make of this evidence.

The fact of the matter seems to be that the qualities tapped by such tests are highly valued in school settings and in complex industrial society generally. Low test scores, or, equivalently, low levels of academic competency or preparedness, take their toll. The evidence is persuasive that one of the major reasons why minority youth and youth from lower status families don't go as far through school is because, on the average, they score lower on tests of academic ability, and these, in turn, are among the strongest predictors of

educational attainment. Our studies themselves don't reveal the reasons for such differences in test performance, which also have been the subject of much controversy, but lacking an explanation makes no less compelling the conclusion that, whatever the cause or causes, the differences are of considerable consequence.

Perhaps test scores or the qualities they tap could be made less important for school attainment, or perhaps the performance levels of youth who presently score low could be improved through appropriate educational invervention. It's difficult to say which of these, if either, is the more likely to come about, but barring some such changes, differences in measured academic ability are likely to remain very much implicated in the lower levels of school attainment exhibited by black youth relative to white youth and by youth from low SES families relative to youth from high SES families. This is factually the case, whether we like it or not.

While measured academic ability consistently shows up as among the strongest predictors of how far youth go through school, it is hardly the only such consideration identified in these studies. Having supportive parents, associating with close friends who themselves are college-oriented, doing well while in school, being enrolled in an academic program of study in high school, and expressing high levels of educational and occupational ambition all are valuable assets in the pursuit of high levels of formal schooling.

Importantly, blacks are not nearly so disadvantaged relative to whites on many of these criteria as they are on current standards for evaluating cognitive abilities. In fact, when comparing blacks and whites from similar family backgrounds and with similar levels of test performance, blacks appear to receive at least as much family support for their college aspirations, are at

least as likely to be enrolled in a college-oriented program of study and voice educational and occupational aspirations at least as high as their white counterparts. There is some evidence that blacks actually exceed whites on at least some of these grounds.

These factors, then, are important social, personal and school resources which presently contribute positively to many minority youths' persistence in school (as does high levels of standardized test performance for many minority students).* These analyses thus identify numerous resources that presently are quite effective among blacks in distinguishing those who eventually will realize high levels of educational attainment from those who will not. It certainly is reasonable that such resources, whose efficacy already has been demonstrated, should be given high priority in interventions intended to promote the school retention not only of minority youth, but of all youth who are at risk of terminating their schooling prematurely.

One final comment is in order before turning to factors external to the school which also limit or enhance prospects for high occupational attainment. Although the patterns summarized above are well documented in the studies under review and I have considerable confidence in their general accuracy, it must be appreciated that none of this is so binding that it preordains any particular youth's fate. There actually is much slack in the system and even

*I cannot emphasize too strongly that all these comparisons are relative to some particular frame of reference. Blacks, on the average, do less well than whites on such tests, but many individual blacks score very well, and when they do this benefits them just as high scores benefit whites. In fact, although results of such analyses differ in fine detail when performed separately for whites and blacks, the commonalities are much more striking than the differences. The factors that are predictive of school success are very similar for whites and blacks, including the importance of test performance and of family social and economic standing.

the most detailed models predicting educational levels and occupational placement are far from fully deterministic. High ability youth indeed are more likely to continue into college than are their less academically adept counterparts, but not all of them do so. Similarly, some students perhaps at the low end of all the factors I have identified as assets in the quest for high levels of formal schooling and occupational reward may actually turn out to be quite successful. What is revealed in these studies are general tendencies, and they are accurate as such, but it should not be assumed that youth who do not conform to this implicit profile of factors that promote success are thereby doomed to a life of failure. I want to be very cautious not to overstate the implications of these findings; at the same time, however, they do identify factors that presently serve youth well in their struggle to succeed and which might be used even more self-consciously in the future to further broaden opportunities.

I mentioned previously that in organizing my response to this question I would distinguish between family and school factors that operate mainly through preparing youth for work and influences that express themselves once youth actually are in the labor force. While this distinction between pre-work and post-entry stages of career development provides for a convenient organization of the present discussion, it nevertheless oversimplifies what is for many youth a complex pattern of movement in and out of school and in and out of the labor force.

Karweit's study reminds us that both schooling and work often are marked by interruptions and discontinuities and, of most immediate interest, that the patterning and sequencing of work and school commitments may itself have important consequences for youths' long term career prospects. In particular,

her work indicates that blacks benefit (in terms of the prestige levels of the jobs they hold) from returning to school after an interruption only if they return to a degree program. Whites, on the other hand, appear to profit from any sort of school continuation. Her research also indicates that accumulated work experience is especially important for the prestige attainments of blacks. Thus, returning to school to complete a degree and steady work habits both have practical value in providing blacks better access to high level employment. These would seem to represent viable options for closing somewhat the achievement gap between blacks and whites. As a practical consideration, regardless of whether they actually would narrow this differential, they still pay off in their own right.

Another possible avenue that minority youth might better avail themselves of in the future than they have in the past is identified in Gottfredson's study. She points out, quite properly I believe, that in isolating one particular quality of an occupation -- its earnings or prestige level for example -- we tend to lose sight of the fact that work comes in complex packages. In slighting this complexity we not only neglect tradeoffs that often must be entertained in pursuing any particular career goal (e.g., wanting to help others is unlikely to be rewarded with high pay) but perhaps also miss opportunities to maximize some benefits if we are willing to sacrifice others.

Her research classifies occupations on both vertical and horizontal dimensions. The vertical factor involves mainly prestige distinctions among occupations, but she also considers earnings levels. The horizontal distinction classifies occupations according to a typology developed by John Holland. Holland's six fields of work distinguish among occupations on the basis of the kinds of interests and behaviors they mainly entail: realistic, investigative,

artistic. social, enterprising and conventional. His theory of person-environment fit assumes that people will do best and be most satisfied where work requirements and personality dispositions are consonant. Simply put, some people are better suited for some kinds of work than others and things work best when there is a good match between people and jobs.

Gottfredson's research shows that an occupation's prestige level and its earnings level do not always correspond. That is, there are many relatively high prestige jobs that are not especially well paying; and, conversely, many well paying jobs that are not especially highly regarded. Social service and teaching positions would be examples of the former sort of employment; sales work would be an example of the latter.

What is especially relevant about these distinctions in the present context is that minorities tend to be very much underrepresented in the latter type of positions -- especially enterprising work. Moreover, this type of employment generally places less of a premium on educational credentials than is the case with employment in higher status jobs, even lower-paying higher status jobs. Thus, part of the economic disadvantage of blacks may result from this "maldistribution" -- they historically have tended not to secure employment in the occupational sectors which offer good prospects for high pay and which impose few educational barriers. Whatever the historical roots of this pattern, it is interesting that even today minority youth rarely aspire to this sort of work. Regardless of any other barriers that may exist, that these options are not especially salient for minority youth as they plan for careers no doubt is an additional obstacle to their pursuit.

Recognizing that jobs differ systematically in the various rewards they offer changes the focus somewhat from the sort of issues most prominent during the schooling, or preparatory, phase of career development. There I was concerned about the kinds of resources individuals acquire during the course of schooling and through family socialization: academic competencies, educational credentials, and high aspirations, either career-wise or for advanced levels of schooling. Focusing on job characteristics, however, shifts attention from the qualifications youth present to prospective employers to the structure of opportunities available in the labor force and in the labor market. What's more at issue in this latter respect is one's ability to secure work that itself holds promise for career advancement and which provides the kinds of rewards that are personally important.

Gottfredson's research emphasizes one important feature of the opportunity structure that may be especially relevant to the interests of minority youth. Spaeth's project, and to a lesser extent Cook and Alexander's, touch upon related concerns that have special significance for women.

Spaeth's study identifies several ways in which women's depressed earnings relative to men's is linked to their position in the world of work rather than either to deficiencies on their part as workers or to direct wage or salary discrimination on the part of employers. Men benefit financially, it seems, from being more likely to find employment in the profit sector (as opposed to the public sector) of the economy, from their tendency to work in larger firms, and from their being employed more often in high paying professional positions. Earnings tend to be higher in large firms and in the profit sector, and men profit disproportionately from these differences because of their pattern of employment. It also is the case that early in their work histories men manage

initially to secure better paying employment. Much of the male-female difference in earnings observed later simply carries along this initial pattern.

This last finding serves to remind us that careers have histories, and that decisions and experiences early on may have long-lasting repercussions. Gottfredson's work too underscores this point. She finds that one's earlier field of employment generally is a stronger predictor of one's later field of employment than are one's aspirations for a particular field of employment. Thus, options close over the course of an individual's work history, and the very real tendency toward "locking in" should not be slighted in career planning. Decisions made earlier carry consequences, suggesting that such decisions should not be made lightly.

Spaeth's project also identifies other factors that seem to contribute to women's relatively poor earnings prospects, but before considering these I want to mention one finding from the Cook-Alexander study which is relevant to the present discussion of opportunity structures and the packaging of jobs. Their study is concerned mainly with the role that adolescents' leisure interests and pursuits play in career decision-making and whether they have any influence on youths' actual career experiences.

Their work also uses Holland's typology for classifying personality types and job environments, mentioned above in discussing Gottfredson's study. Cook and Alexander coded adolescents' leisure-time use and the characteristics of their jobs after high school on the basis of the six distinctions drawn by Holland. They then looked to see if earlier interests were predictive of later job placements. Modest connections were in fact observed in their research, and these linkages generally were consistent with what Holland's theory would

anticipate (although I must emphasize that these connections, though reasonable, were not especially large).

Their research, then, also considers the clusters of characteristics that comprise jobs. It concludes that the quality of any job placement should be judged on the basis of the <u>various</u> rewards or reinforcements it offers. In their work, the packaging of job characteristics is most relevant to the rewards that work holds for women. Cook and Alexander, like Spaeth, find that women are employed in lower-paying jobs,* but not just in any sort of low paying jobs. Rather, women's work also tends to provide opportunities to help others (this conforms to Gottfredson's pattern of low paying/high prestige social service work).

What is especially intriguing about this pattern is that women's interests during adolescence scored much higher on the social service dimension than did men's (Tittle, and Katz and Cosby, in their studies, also observe the characteristic sex-typing of occupational values, preferences and interests). Thus, women's later work environments are in alignment with this facet of their personality, and are in this sense rewarding. This source of gratification through work comes at a price, however, in this instance in the sacrifice of the more material benefits that work can confer. I might note, incidentally, that the sort of low-paying work most often obtained by men was simply that, low-paying. It offered no compensating advantages in terms of the typical male interest profile.

It is not my intention to judge this state of affairs as being either good or bad. Rather, I take it simply as revealing another reality of the world of work with which youth must contend, or at least should contend, in

*Their study actually measured the level of satisfaction workers indicate for various aspects of their employment. It did not measure those attributes of work objectively. Cook and Alexander use these measures of satisfaction as indicative of actual work characteristics. No doubt there is slippage in going from one to the other, so caution must be exercised in accepting their data as descriptive of what the respondents' work actually entails.

their career-planning. Specific jobs often entail some highly desirable qualities and some less desirable qualities. In planning for the future or weighing present options, some consideration should be given to the various gratifications a job might offer and to the tradeoffs that might have to be entertained if the pursuit of one objective implies the sacrifice of others. In the present instance, it is possible that for some women having opportunities to be of benefit to others more than compensates for the financial loss incurred in "women's work." Although I certainly am not in a position to prejudge the matter, one conclusion does seem indisputable: it is most useful for all concerned that such tradeoffs be recognized before the fact and not be stumbled into inadvertently. Greater appreciation of these sorts of tradeoffs, together with pressures to open fields of study and of employment to women which traditionally have been the reserve of males, may well help to broaden career options for women.

The "packaging" of various characteristics in a single job is only one issue that may have special relevance for women's prospects for high paying work. Spaeth's research also identifies several others that may entail tradeoffs of a quite different sort. These involve family commitments and their implications, first, for working at all and, second, for the rewards obtained when one does work.

It will come as no surprise that marriage and childrearing often influence how much women work. Spaeth's research demonstrates this clearly. Having young children is an important deterrent to women's working, as is having a husband who himself has a high income (reducing financial pressures for the wife to work). Among women with young children, having a positive attitude toward the notion of mothers working is an important factor in their employment. Among childless women, attitudes toward housework seem to be a more prominent consideration.

The more intermittent labor-force participation of many women has quite tangible implications for how they fare financially in the marketplace. Among women, being married and having children are associated with reduced earnings; among men, these considerations either are of no consequence or actually are associated with somewhat higher earnings. In an interesting pattern, although women typically work fewer hours than men, when they do work full-time this actually appears to benefit them more than it does men. Employers, it seems, pay a premium to women who evidence a high level of commitment to work.

This sacrifice of career rewards for family commitments is revealed in other of our studies as well, although in most of these the connections are more implicit, being revealed in plans for the future rather than in present experiences. Dresch, for example, finds that single women are more like men in their occupational and educational goals and in their educational attainments. They also express greater commitment to labor force careers than do their married counterparts. In like fashion, Cosby finds that plans to marry early are associated with lower levels of educational attainment. Finally, Tittle demonstrates that one's values toward marriage and parenthood are related to occupational values. She finds, additionally, that women whose family values are "atypical" (relative to the female sample overall) are somewhat closer to men in their occupational values than are women whose family values are more typical.

Here again, then, we encounter a tradeoff between competing values, and it is difficult to say with assurance whether or not this is bad. No doubt, for many women (and some men, if given the opportunity) family commitments will have priority, and relief from the obligation to work or to work full time will be welcome. For others, this sacrifice of career pursuits will be

an important personal loss. Perhaps in the future family roles will change so that such burdens do not have to be borne to such an extent by women alone or perhaps work roles will change to more readily accommodate family commitments. Until such changes come about, though, it is important for women to appreciate that "career-planning" encompasses both family and work, and that commitments in one domain are likely to spill over into what transpires in the other. The studies by Harran, Katz, and Tittle speak most directly to these issues.

In answering this question, I have touched upon many considerations. Educational attainments, and the family and school precursors to them, appear to be most relevant to the relatively poor career prospects of minority youth and children from families of low social and economic standing. Anything that can boost their school retention will reap returns later on. Our studies also suggest some resources that might help, including the nurturing of achievement-oriented ambitions, promoting high academic achievement, and making even better use of the interpersonal supports available to such youth.

What transpires in the labor market also is of great consequence, in this instance for women as well as minorities. What seems advisable here is to more fully appreciate the complexity of work and its multi-dimensionality. Jobs not only provide paychecks, but potentially many other gratifications as well, and it is important in career planning that youth be aware of, and think through, the tradeoffs that any particular preference might entail. For women, the difficulties in combining family and work goals also require serious consideration. Hence, career planning that focuses only on occupational choice may be of limited value, especially, but not exclusively, for women.

Finally, it is important to appreciate that opportunities are structured, rather than discrete, and that the structure within which any particular job is embedded is likely to have consequences for what youth experience down the road. The way in which a job is located in the larger organization of work (e.g., large firm, public sector) also has consequences for what might reasonably be expected from it. All of these considerations underscore the breadth of issues that should enter into career planning and career decision-making.

3. Your answers thus far have had much to say about the more tangible aspects of occupational success, such as earnings and prestige, but many people today are more concerned with finding work that is personally satisfying and that they enjoy. Do your studies have anything to say about sources of job satisfaction?

Not as much as I would like, but the limited insights they do offer nevertheless are worth relating. Only three of the studies give any consideration at all to the question of job satisfaction, and two of these, the projects conducted by Solmon and by Spaeth, pertain only to the experiences of college graduates. The other study, the one by Cook and Alexander, considers satisfaction with various aspects of one's employment, but uses these data as reflective of actual job characteristics, rather than as expressions of satisfaction per se. Additionally this last project does not include a measure of general or overall job satisfaction, which is how satisfaction is studied in the other two.

Despite these very real limitations, the results from these projects generally are in accord with other research dealing with global expressions of job satisfaction.* First, job satisfaction, when measured in this global way

*Some researchers, however, including Spaeth in his project, have suggested that global satisfaction measures may be too gross for many purposes and that more finely-tuned questions pertaining to specific aspects of the work situation may actually be required.

seems to be strikingly high overall. Most workers claim their work is satisfying, and it is difficult in these studies to discern the great reservoir of disaffection and alienation among workers that so often is assumed. This is not to say that everything is as it should be, but simply that whatever such problems might exist aren't revealed in questions of this sort. Of course it's at least conceivable that people by-and-large are content with their work.* If this is the case, then, the severity of the problem may be exaggerated in popular perceptions. I might add that other studies, not restricted to high achieving youth as in the present instance, have obtained similar findings.

Second, these studies are notably unsuccessful in uncovering strong predictors of general job satisfaction. While many connections between predictors and satisfaction are documented, almost without exception these are modest in magnitude. Thus, a satisfactory empirical accounting of job satisfaction has proven quite elusive. This, no doubt, is due in large measure to the fact that levels of such satisfaction are so uniformly high.

Studies of the sort we are considering basically look to see, in systematic fashion, how <u>differences</u> in the values of predictor variables map onto <u>differences</u> in the values of outcome variables. If scores on the criterion variable turn out to be very similar within a study population, then predictive accuracy invariably will be low. In the extreme case, if all

*Or come to be content, either by shifting jobs or by adjusting expectations -- Gottfredson's work indicates that both processes occur in bringing aspirations in line with attainments, but her study does not deal explicitly with how these changes relate to satisfaction.

respondents had exactly the same satisfaction scores, then differences in the values of the predictors would not distinguish at all among scores on the criterion, since these latter scores all are the same. Under these circumstances, predictor variables would have absolutely no explanatory power. While the situation is not quite so extreme in the case of general job satisfaction, the tendency for scores to be high on such measures for all sorts of workers does severely limit predictability.

A third conclusion may also be somewhat surprising. It is clear from these and related studies that high education does not itself assure high levels of job satisfaction. In fact there is some indication that more highly educated workers are, if anything, somewhat less satisfied with their employment situations. This is all the more striking in light of the fact that higher education clearly reaps substantial tangible benefits. More highly educated workers typically are paid better and obtain higher prestige jobs. Even without taking into account these benefits associated with advanced levels of formal education, the education-satisfaction linkage is quite slight. When comparing workers with similar earnings and occupational levels, those with more education often express less satisfaction than their lesser educated counterparts.

Although this general pattern is pretty well established in the literature, what it means and why it comes about is less clear. There are purely technical problems having to do with the fact that highly educated workers tend to score toward the high end of both the educational and the satisfaction scales. Hence, any errors in their satisfaction reports will tend to be on the low side, thereby driving down relationships in the data relative to those

that might actually exist. On the more substantive side, the interpretation often is given that more highly educated workers hold especially high expectations for the gratifications they will obtain from their work. Even though, objectively, they are better off than less educated workers, these advantages still may not keep pace with their expectations, and satisfaction may be lower due to relative disappointment rather than absolute deprivation. The "expectations" explanation is especially plausible when comparing workers with similar levels of objective reward or when looking at satisfaction early in the career, before all of the benefits that eventually will come from being highly educated have had a chance to work themselves out.

Thus far, I have answered mainly in negatives: not much predicts satisfaction and, perhaps counter-intuitively, more highly educated workers are not especially more satisfied. These, in fact, are the broad messages research on this topic has to deliver; however, there is much more in the way of fine detail that also should be of interest. I caution, however, that the various differences to be reviewed next, though perhaps real, are not very large.

Solmon's study identifies several factors that appear to increase the likelihood of finding satisfaction in one's work. It is important to remember, however, that these conclusions pertain to the experiences of college graduates (and only white college graduates at that), so it is hard to know if they would be generally applicable. Feeling that one's skills are being used on the job is the single most important consideration identified in Solmon's work (although the extent to which this occurs varies tremendously from occupation to occupation, generally being lowest in lower level work, such as office work or semi- or unskilled work). Other factors that enhance

satisfaction include being employed in professional-type work, earning a high salary, and having a job that is related to one's college major.

This last conclusion is especially interesting since it is one respect in which educational decisions do seem to matter. I will return to this issue in another question below, but for now it is sufficient to observe that seeing connections between what one is doing and what one has been prepared to do is a source of job satisfaction, and one which has its roots in decisions made while in school. Solmon's study also finds, however, that being in a job unrelated to one's college major is not necessarily bad, and does not necessarily result in dissatisfaction. This is because many workers have been promoted up from (and out of) their entry-level positions, which were in fact connected to their college concentration. In these instances, then, the college major provided a jumping off point with opportunities for upward mobility. As a result, ties between the college major and the current position are weakened, but this should not be taken to mean that the choice of a major had no job relevance.

Spaeth's study too considers sources of job satisfaction among college graduates. He found these to differ somewhat for men and women and when evaluated at two separate points over a two year time span. Since it is difficult to know what should be made of such changing patterns over time, in relating these results I simply will present what was found to be important, and not bother with the additional details as to when.

As in Solmon's study, having a job related to one's major area of study in college was found to contribute to satisfaction, but more so for women than for men. Having a job deemed consistent with one's personality also was a factor, in line with perspectives (such as Holland's alluded to

above) that place much emphasis on person-environment "fit."

Some other considerations had special significance only among men. These include having a full-time job, feeling that one's work is challenging, having high earnings, and expressing satisfaction with one's earnings. Incidentally, these last results involving the financial aspects of work produced the study's sharpest contrasts between men and women. Among women, earnings and satisfaction with them were hardly important at all; among men, on the other hand, they were two of the most important factors identified in the entire study. These differences may have something to do with differences between men and women in what is valued most in their work, a topic to which we will return below.

In reflecting upon these results, Spaeth himself expressed concern regarding what exactly they might signify, and it is important that this be passed along. The belief that one's work is challenging and being satisfied with one's earnings were two of the more important determinants of general satisfaction, and they were especially prominent as such among men. But are these "determinants" of satisfaction or simply expressions of it? While it might not exactly be circular to conclude that satisfaction with particular aspects of one's work contributes to satisfaction overall, the part-whole confusion is nevertheless troublesome. It no doubt is useful to know how particular satisfactions "add up," but then we also would want to know what factors contribute to them, in addition to how they themselves contribute to general satisfaction. Spaeth's call for further conceptual refinement is well taken. Without such clarification it is difficult to know what should be made of the conclusion that factors "close" to the job have more to do with satisfaction than do things pertaining either to background or to preparation for work while in school.

This last uncertainty aside, two important conclusions stand out from this work. First, whatever else its value, high education in itself does not assure satisfaction with one's work. Second, both studies that considered the issue found linkages between the work actually being performed and one's area of concentration while in school to be an important source of satisfaction. In this sense, educational decisions do have consequences for what happens later.

4. Your answer to the question above about the sources of occupational and economic inequalities along racial and gender lines seems to refute a commonly held belief that much of women's low attainment results from low expectations, a sort of self-fulfilling prophecy. Isn't this really a problem?

As best as I can determine, it seems not to be a problem, at least in so far as women's aspirations for high prestige employment are concerned. The literature is quite consistent in finding that women's average level of prestige aspirations is at least as high as men's, common beliefs notwithstanding. This, however, is not the only respect in which women's aspirations and orientations toward the future are relevant to later accomplishments, and some of these other considerations may have much more to do with the very real differences in occupational success (construed in conventional terms -- high earnings, high prestige, etc.) that do exist between men and women.

Before leaving prestige aspirations, however, it might be useful to mention again the gender differences, other than mean differences, that our studies do reveal. It will be recalled from earlier that although women aspire to roughly the same prestige levels as do men, the range of their

prestige aspirations is much more constricted, being concentrated in the middle of the range. Thus, although women less often aspire to very low level jobs, they also are less likely to focus on very high level ones. The similarity of men's and women's mean aspiration levels should not obscure these very real differences in the patterning of their occupational goals.

The restricted range of women's aspirations leads into other aspects of their occupational orientation that may have much more to do with what transpires later. Women's goals actually are quite narrow how ever they are looked at. For one thing, their occupational goals typically are concentrated in only a handful of specific titles, and these are heavily sex-typed. In Cook and Alexander's project, female high school seniors from the two cohorts they studied mentioned very few specific occupational titles in relating their goals. In one cohort, six titles encompassed eighty percent of the responses; in the other, a dozen titles covered sixty-five percent of the responses. Cosby observed a quite similar pattern.

Women's occupational choices, it must be emphasized, were not low prestige ones. Quite to the contrary, the majority of women in Cook and Alexander's study were thinking in terms of some sort of professional employment -- indicating a lack of realism to which I will return later. These, then, clearly were not low level goals, but they nevertheless were distinctive in other respects. Almost without exception, they were highly sex-stereotyped choices: secretary, nurse, elementary school teacher, model, stewardess, etc.* Thus, during adolescence it is clear that most women's

*Men's occupational choices, incidentally, were also strikingly narrow and sex-stereotyped, though they did cover a somewhat broader range of titles. Thus, both men and women were quite unimaginative in their occupational preferences and reflected little appreciation of the great variety of possibilities that actually exist.

sights are set on what is traditionally women's work, and although this is not especially low prestige work, it typically is low paying. We actually don't have much direct information on women's earnings aspirations per se, but this preference for traditional female work roles, if successfully enacted, almost certainly will result in lower earnings for women. Again, Cosby's study found a similar pattern of occupational goals among female students in his sample of rural youth.

There are other respects as well in which women's occupational choices are narrow and sex-typed. When occupational goals are classified according to Holland's typology, which already has been mentioned at several points, the distribution again is highly sex-typed. Women's goals tend to fall disproportionately into the "conventional"(as in clerical or secretarial work) and the "social" categories (as in teaching, nursing and social work), while men much more often indicate a preference for either realistic (policeman, draftsman), investigative (engineer), or enterprising work (lawyer, banker, manager). Again, if aspirations for a particular type (as opposed to level)of work serve at all to channel youth in particular directions, these early orientations seem clearly to anticipate (and perpetuate) the sex-typed division of labor and the distribution of rewards associated with that division of labor.

Our projects actually probe this issue a bit further, for they suggest that this pattern of sex differences in specific occupational goals is linked to other, often earlier, differences in the values and interests characteristic of boys and girls. Harren, for example, finds that, among college students, women who score high on self-ascribed feminine characteristics and who hold

traditional attitudes toward women's roles are most likely to pursue a sex-typed major while in college and to choose traditionally-female occupations (again, using Holland's typology).

Katz, studying college students, and Tittle, studying high school students, both find that occupational values themselves are strongly sex-linked. Males typically place much greater emphasis on such things as income, independence, and opportunities to exercise leadership, while women give greater weight to being able to help others and to finding employment in one's field of interest. It seems clear that differences in the specific occupations chosen by boys and girls follow, at least in part, from these sorts of differences in occupational values. Katz, for example, finds that males tend to aspire to higher paying occupations, despite the fact that boys and girls provide quite similar rankings of the general desirability of various occupations. Katz also finds that youth (both boys and girls) with "sex-atypical" value profiles tend to fall midway between the sex-typed extremes in the occupational choices they express.

Finally, it also is clear that this gender-linked pattern of interests and values originates quite early in youths' social and personal development. Cook and Alexander's data on leisure interests and activities are relevant here. When their data on discretionary time-use are classified into the six Holland categories, the characteristic sex patterning of interests is quite apparent even at the earliest grade level for which they have data, the seventh. They also find, however, that boys and girls grow more apart along these lines throughout the junior and senior high school years. Females are much more involved than males in conventional and social activities, while males concentrate on more realistic pursuits, but with increasing emphasis on social interests as they grow older.

Other research, outside of our eleven studies, reinforces these conclusions. The sex-patterning of interests, occupational values, and even occupational preferences shows up as early as the elementary grade levels, and may actually precede school entry altogether. Although this may come as no great surprise, these aspects of sex role socialization turn out to be quite potent, and they express themselves early in the personal and social development of boys and girls. It is reasonable that changing this pattern will be harder the longer it is in place.

A chain of linkages thus is established in this literature which traces the sex-typing of career attainments, at least in part, back to sex role socialization already apparent at the earliest grade levels. Sex-typical interests anticipate sex-typical occupational values, which anticipate sex-typical occupational choices, which anticipate sex-typical occupational attainments. To be sure, this is not all that is involved in the gender-based division of labor, but it no doubt is highly relevant.

Again, I present this as my best description of the existing state of affairs, without intending any judgment as to whether it is good or bad. Certainly there are strongly held opinions on both sides of the issue. For those, however, who think it desirable to reduce sex-typing in the occupational sphere, it is important that the powerful social forces that undergird present-day arrangements be fully appreciated and that the various levels at which the problems must be attacked be recognized. The scenario I've traced out has rather clear implications along these lines.

5. Your answer to the previous question seems to pull in opposite directions regarding another issue that often is troublesome to counselors -- the matter of realism in occupational goals. On the one hand you mentioned that practically everyone aspires to high prestige jobs, but it seems clear that not everyone will be able to get this sort of employment. In this sense, unrealistic goals seem bad. On the other hand, if women "realistically" aspire to what is traditionally women's work, and if we want to broaden occupational opportunities, then isn't realism bad in this instance? How realistic are occupational goals, and should we be trying to encourage greater or lesser realism on the part of students?

The question recognizes that this actually is a more complicated issue than might be apparent on the surface, and this in itself is important. There is no simple or general answer as to how realistic youth are in their career goals, since this depends on what aspect of those goals is at issue. And whether more or less realism is desirable depends, at least in part, on what one hopes to accomplish and on one's viewpoint as to what the world should look like. Here again, then, any general prescription would be ill-advised.

To a considerable extent my answer to this question simply rearranges and selectively highlights things said earlier. First, it clearly is the case that youths' prestige aspirations are much higher than their attainments are likely to be, and this holds for just about everyone: blacks and whites; boys and girls. Some pragmatism, however, is indicated in the relationship between family social background and aspirations (low SES youth express lower aspirations than high SES youth). It also appears that youth temper their occupational goals somewhat over the course of their work histories as reality impresses itself upon them (although Gottfredson's study suggests that such adjustment occurs more with respect to field of

work than prestige levels). These details, though important, do not alter the general message: adolescents' prestige aspirations are extraordinarily high, as judged relative to how prestige actually is distributed in the labor force.

By this standard, aspirations are quite unrealistic, but is this necessarily bad? Perhaps surprisingly, these studies offer no reason to think so: youth with higher aspirations are, all other things equal, more likely to obtain high prestige employment than are youth with lower aspirations. To be sure, accomplishments often fall considerably short of goals, but the evidence indicates that they nevertheless are higher than they would have been otherwise. I know of no research, either in the present set or elsewhere, that finds lower aspirations to be more beneficial than higher ones.

With regard to the quite realistic sex-typing of occupational preferences, evaluation here is less clear-cut, although the evidence itself is not at all ambiguous. Women's occupational goals are heavily concentrated in the traditionally female occupations and occupational types (as in the Holland scheme) and those goals often are successfully enacted. This also seems to be what many women want. The gender-dominated occupations tend to provide the sorts of reinforcements women find important and to involve task-structures consistent with women's interests. By one set of criteria, this is a model of effective career decision-making: women's occupational goals follow from their interests and women have considerable success in following through on them. Additionally, as mentioned above, having a job consistent with one's interests and with one's field of study (itself often sex-segregated) is an important source of job satisfication. From

the point of view of the individual actor, who is to say this is bad? On the other hand, this pattern clearly is constrained by and perpetuates the prevailing gender-based division of labor. Many find this objectionable; many others think it exactly as it should be.

Whether such "realism" is a problem, then, isn't revealed by the data themselves. This is a value judgment and attitudes will differ. Some other results connected to these, however, are more clearly negative in their implications. These involve the narrow range of occupational options (whether sex-typed or not) actually entertained by youth and the dearth of information available to them as they do their career planning. I mentioned above that the occupational goals of both boys and girls are limited to but a handful of titles. This compares to the great range of possibilities present in the American economy. The Dictionary of Occupational Titles, the most authoritative source on occupational distinctions, lists more than 20,000 separate occupational titles, and even these probably are not exhaustive.

The career goals expressed by youth are constricted, stereotyped (gender-wise and otherwise) and based, by-and-large, on casual impressions and popular image, rather than on any meaningful understanding of what a particular occupation entails. No doubt there are exceptions to this sweeping generalization, but it probably is applicable much more often than not. Even the generally high prestige aspirations held by youth are not especially comforting in this light, for they too hardly begin to exhaust the options that actually exist at the high end of the occupational spectrum.

Finally, many studies have found that most youth, even as late as the senior year of high school, are woefully ill-informed about the nature of specific occupations and the way labor markets work. One finding from the Cook-Alexander study underscores this problem. About a third of the youth in their sample who were employed full-time after high school graduation indicated that they had no idea what their present job entailed before they had secured it. Moreover, women and blacks indicated lower levels of prior knowledge than did white males. It is difficult to imagine any model of effective career planning which would find merit in this state of affairs.

On balance, then, I conclude that concerns regarding the lack of realism in occupational goals may be exaggerated. High prestige aspirations appear, if anything, beneficial. More troublesome, in fact, may be excessive realism, in that this tends to perpetuate whatever exists presently. If the status quo is thought to be seriously flawed, then we would want youth to break out of the mold, rather than simply to anticipate more of the same. On the other hand, if what is most likely presently is deemed adequate, then "realism" is unproblemmatic. Clearly, much hinges on one's preferred agenda for the future. What is more troublesome than either too little or too much realism are the low levels of occupational information available to most youth, their general ignorance of the world of work and the way it operates, and the limited range of options they entertain in career planning. It is unlikely that planning in the dark would be deemed desirable or optimal by any standard. Unfortunately, many youth appear to be making decisions about the future under precisely these sorts of conditions.

6. In thinking back over the answers you've given thus far, it seems as though many commonly held notions regarding how career decision-making works don't fare very well. Is this impression on target?

It's right on the mark. Although I didn't begin this project with the idea of highlighting negative evidence, the myth-busting message of many of these studies cannot be ignored. In fact, if one conclusion stands out from all others, it is that the realities of career decision-making and of career-development are much more complicated and convoluted than they are made out to be in the idealized abstractions (i.e., theories) that dominate the literature and guide the research.

For example, much thinking about vocational development assumes an orderly progression through either decision-making stages or social role transitions. This simply is not faithful to the personal experiences of many, if not most, youth. Karweit's research, for example, demonstrates that the so-called "transition from school to work," which is the focus of so much attention, very often is not a discrete event in people's lives. Rather, there is much movement back and forth between school and work, with a great many possibilities for how the two are combined and/or patterned.

The timing and sequencing of family events, such as marrying and child-bearing, complicate matters even further, although much thinking about career development assumes that family responsibilities come only after one's feet are on the ground. This scenario of school first, then work, then family actually has very limited applicability today, and is likely, if anything, to have even less in the future.

Finding a good "first job" no doubt is, and will remain, important, but preoccupation with the so-called "school-to-work" transition is too narrow for many purposes. We need much more information about the patternings

of school, work and family commitments that are most commonplace and about what sorts of consequences are associated with them. With such a knowledge base, we would be in a better position at least to say what mix of experiences is likely to serve best a particular youth's interests. Perhaps as well, we would know more about how to promote an effective course of action. Although no one can say how quickly such research would yield practical payoff, one thing seems clear: the pretense of a tidy, orderly series of transitions simply hides the problems; it certainly doesn't solve them.

There are other respects in which the prevailing imageries in the literature lead us astray. One pertains to the model of the student as a rational actor, which is implicit in many developmental theories of vocational choice and career decision making. These perspectives too posit an orderly progression, in this instance one leading to realistic, reasonable career goals.

The scenario here involves a planning process in which interests and goals are successively refined, based on self-reflection and self-appraisal. One's interests and talents emerge and become more clearly discerned as they are tested out in a variety of settings -- in the family, in the school, with one's peer group, in avocational pursuits, and perhaps in part-time work. This emergent self-identity is pivotal to the process by which diffuse interests come to inform general vocational preferences, which, in turn, lead eventually to specific occupational choices.

While the details of this planning process will differ depending on who one reads, the general themes sketched above are quite commonplace. Youth are portrayed as rational, future-oriented actors for whom vocational concerns have a high degree of salience, especially as the active

work stage nears. Youth become increasingly refined in their thinking about themselves and about what sorts of things are most important to them personally. This thinking, in turn, supposedly is reflected in their occupational goals and in the course of action chosen for their pursuit. As a descrpition of how things ideally should be, this characterization of the planning and decision-making process is wholly commendable. As a description of how things actually work, however, it appears to be more fantasy than fact.

We already have encountered several respects in which youths' plans and planning fail to conform to this model: knowledge of detailed occupations and of how labor markets work often is quite inadequate; goals are limited to a relatively few "high profile" occupations, and even here preferences seem to be based more on popular image than on well-considered deliberation; and, many youth wind up in jobs about which they knew practically nothing beforehand. It is perhaps especially disturbing that this last occurrence was found, in the Cook-Alexander study, to be most commonplace among students enrolled in a vocational curriculum in high school. These are the programs charged with providing practical job skills, and these are the youth for whom vocational decisions are most immediate. It also was more frequent among blacks and women relative to, respectively, whites and men.

There are additional respects, as well, in which reality appears to fall far short of the ideal. For many youth, vocational planning simply isn't salient, and there's little indication that it becomes more so as they move through high school. This at least is what is suggested by students' responses to questions about how much thought they have given

to their occupational preferences and how much they've planned for the future. Moreover, when asked who they rely upon for information and advice, the most common sources typically are parents and peers. This is especially true among minority youth and youth from low SES families. Thus, the youth who probably are most in need of well-informed guidance have the least access to it. Rather, they depend mostly on the advice of their low achieving parents and their similarly ill-informed friends -- sources unlikely to significantly broaden their horizons. If anything, it appears that for many youth career plans become "locked in" at a very early age and are circumscribed by barriers associated with race, gender and socioeconomic background. Youth acquire early on a sense of what sorts of opportunities and options are appropriate for kids "like them," and these perceptions appear to be very little altered by rational reflection upon one's interests and aptitudes (in fact, interests and aptitudes themselves tend to be structured so as to reinforce, rather than alter, such perceptions). This general pattern is most apparent in the types of occupations to which youth aspire, as opposed to their prestige levels, and is accorded very little recognition in theories of decision-making processes.

Finally, there is little evidence from these studies that leisure interests and activities play the role in career decision-making that so often is assumed for them. These outlets for one's energies supposedly allow youth to develop career-relevant insights by testing out their abilities and fine-tuning their interests. They seem to fall short, however, on several counts. In the first place, most of the things young people do in their spare time have very little occupational relevance. That is, activities which by their very nature (i.e., doing things mechanical)

or content (reading science magazines) might have occupational spillover rank very low as pastimes. Second, the limited involvement that youth do have in activities which might inform occupational interests has very little bearing on any other indicators of progress in career planning. That is, youth who engage in such activities are no more likely to be planning for the future, to be drawing upon well informed sources for advice, or to express more varied goals. Finally, aside from the connection mentioned above between sex-typed interests and sex-typed occupational placements, there is little indication that youth find employment consistent with the kinds of interests implied in their activity preferences as adolescents.*

On all these counts, then, the actual course of decision-making while in school and the connections between the planning process and what later eventuates are far removed from the idealized vision of effective career development so often encountered in the literature. Even, however, if youths' planning did generally conform to this scenario, it still would be lacking in at least one important respect: it neglects almost entirely the external constraints that limit options and possibilities quite apart from any individual's level of vocational development.

Person-oriented models of the planning process focus on preparation for work, involving mainly skill acquisition and goal formation. The objective of effective career planning under these models is to achieve a suitable and satisfying "fit" between the competencies and interests of the worker and the nature of the work he/she must perform. One finds

*Some reasonable linkages between interests and job routines were observed in this research, though these were not especially strong. Investigative and artistic interest patterns were most often related to the corresponding sorts of task structures in later employment.

meager consideration in this literature, however, of how it is that the successful matching of workers and work comes about. This is a curious oversight in a literature which places such great emphasis on the importance for workers (and for employers, for that matter) of their finding the right kind of work.

It is almost as though it is assumed that once prospective workers are thinking along the "right lines," everything else will fall into place. But surely this is, at best, only part of the answer, for few of us are so fortunate as to be entirely the makers of our own destinies. The Cook-Alexander study, for example, finds only very slight correspondance between workers' earlier activity preferences and the kinds of activities involved in their work. The authors suggest that the opportunities available to youthful workers, especially those lacking advanced educational credentials, rarely will afford the kinds of latitude to pursue personal interests that is implied in models of person-environment fit. Job options are likely to be especially limited when job information is sparse, when youth are untutored in effective job search skills, and when the economy is tight. Under such circumstances, finding any job is difficult enough, let alone finding one that allows for self-actualization.

There are numerous other respects in which opportunities are bound by the ways in which occupations and labor markets are structured. I already have alluded to several of these in previous answers: the fact that specific jobs and occupations comprise clusters of characteristics which may be inseparable, so that the pursuit of one goal may imply the sacrifice of others; the fact that different firms, different sectors of the economy and different occupations often will have different career opportunities built into them,

and because of this prospects for success follow from access rather than from individual initiative; and, finally, the fact that careers have histories, and once a worker is locked into a particular trajectory it may be very difficult to escape the perhaps unforeseen and unanticipated consequences of earlier decisions and experiences.

In sum, then, things aren't always the way they are presented to be. Careers often are characterized by discontinuities and interruptions rather than smooth transitions from one phase to the next. Many youth are strikingly present-oriented and improvident. They often don't know the things they ought to know, and seemingly are unmoved by their ignorance. Many youth, no doubt, need help, but it cannot be assumed that they will be aware of this or, if they are, that they will be sufficiently motivated to seek it out. Worse still, it cannot be assumed that they will welcome it when it is thrust upon them. Finally, even nuturing the "right" kinds of goals is no guarantee of success. The world offers real opportunities and real obstacles, and to ignore these is to ignore much of what governs career success.

7. Much of what's been said thus far seems to reinforce the spirit of negativism that is so prevalent today, the idea that nothing much matters, so why bother worrying about the future. This is especially common in discussing with students why they aren't applying themselves to their schoolwork or giving serious consideration to college. Are the kids right that what happens in school doesn't make much of a difference, or do your studies provide some ammunition to counteract this notion?

Our studies do in fact indicate many ways in which educational decisions and attainments matter for youths' occupational prospects, and hopefully I

will be able to dispel impressions to the contrary, but first let me say just a bit about the matter of "negativism." I certainly have not intended to reinforce any such gloomy spirit. Quite the opposite, in fact. There can be little doubt that youth are best served by an optimistic, high-aspiring attitude toward the future. Youth should be encouraged to aim high and work hard. Certainly, little good is likely to come from the opposite qualities. The research offers strong support for these recommendations, but it also encourages recognition that accomplishments are unlikely to match aspirations. This is realism, not negativism.

The other seemingly negative content in my answers is more weighty in implication for those charged with helping youth negotiate these obstacles, rather than for the youth themselves. Recognizing the nature and extent of such problems is much more likely to result in constructive change than is simply ignoring them. It seems clear, for example, that many youth are not as actively engaged in planning for the future as much of the literature would lead us to believe. It also is true that simply nuturing the right kinds of goals is only part of what is required for effective career planning. Much of what will happen to youth once they enter the world of work will be dictated by how work itself, and careers, are organized. It seems advisable that these sorts of constraints be anticipated to the extent possible in the planning process. Again, most of the literature on career planning and decision-making gives little attention to these matters.

What may be read as negativism, then, is more recognition that things are not presently all that they should or might be. Although the message itself may be negative, the spirit is decidedly optimistic. Things can be made better, and understanding the problem is part of the solution.

Now, in so far as school itself is concerned, there is ample evidence that investments in education pay off and that educational decisions should be taken seriously. First, I already have noted that how far one goes through school is quite important in terms of later occupational success. More highly educated youth tend to get higher prestige and higher paying jobs. Additionally, the value of schooling in these regards can serve to compensate somewhat for disadvantages associated with either race or family social and economic standing. Minority youth and youngsters from low-SES families who manage to stay in school benefit tangibly from so doing, although admittedly not to the same degree as their more advantaged peers. This important qualification notwithstanding, for all groups of youngsters, prospects for occupational success (in conventional terms) are much better with high levels of education than they are without it. Among women, higher education also is associated with a stronger commitment to work (see Dresch's study).

Recognizing these patterns, it then becomes apparent that anything which contributes to persistence in school is itself important, perhaps not in the marketplace directly, but indirectly through encouraging youth to acquire valuable educational credentials. Some rather obvious considerations come into play here, but perhaps in this light they take on special significance. To begin with, doing well in school is closely associated with staying in school. Youth who apply themselves to their studies and get good grades are less likely to drop out before graduation (either from high school or college) and are more likely to continue their schooling beyond high school. Good grades, no doubt, have two-fold significance in this last respect. They probably are reflective of high levels of motivation on the part of the youth who get them and they are used directly by

colleges as admission criteria. Good grades also are associated with higher occupational aspirations, at least among college students (see the Weidman study; none of the projects consider this particular issue among high school students, but other research suggests this relationship does hold more generally).

Getting good grades, however, is not the only thing students can do to increase their prospects for continuing in school. Wanting to do so appears to be another important factor. In fact, students' educational plans or aspirations are among the strongest correlates of actual educational attainments. High levels of motivation and ambition no doubt are important personal resources, both for educational attainment and for occupational success. Incidentally, youths' educational expectations seem to be much more in accord with their actual prospects for success than is true for their occupational aspirations. Educational goals also tend to be high, but high levels of schooling are more realistically attainable.

In addition to holding high aspirations, other sorts of educational decisions also are relevant. The high school program of study a student decides to pursue, for example, appears to have considerable bearing on a number of other educational outcomes. Youth in a college-bound or academic track not only do in fact go farther through school than their peers in other high school programs, but they also tend to do better academically and to hold higher educational and occupational goals. These differences still are observed, moreover, even after differences in the social backgrounds and ability levels of the students enrolled in the various curricula are taken into account. That these patterns hold up even after these sorts of adjustments are made suggests that there is something about the quality

of the educational experience in the academic program that promotes high achievement and a positive orientation toward school. Although research thus far has not identified precisely what it is about the high school tracks that accounts for these results, that such differences do in fact exist is fairly well established (see, for example, the studies by Cook and Alexander and by Cosby in our set of projects).

In like fashion, the sort of college one chooses to attend also appears to have some relevance for what follows later. The institution's selectivity (typically as indexed by the ability level of its students) stands out as an especially important feature. Weidman, for example, finds that students attending more select colleges have somewhat higher occupational aspirations and Spaeth finds that, at least among men, having attended a select college is associated with higher earnings. This last difference is observed even after a host of other factors associated with earnings, even including level of education itself, are taken into account. Other research indicates that youth attending more select schools also tend to go farther through school. Hence, college quality appears to make a difference quite independent of numerous other considerations.

Our studies also identify several ways in which school decisions are of consequence for the gratifications youth obtain from their work. I noted earlier that finding employment related to one's area of study in college is an important source of job satisfaction. Solmon's study suggests that this sort of carryover can be either direct or indirect. Most of the youth in his project reported that they found their college education useful in their work. For many students, this followed from the close correspondance between their field of study while in college and the nature

of the work in which they were engaged. These connections were observed for education, health services, accounting, mathematics and engineering majors. For students in other fields, such as the social sciences, skills derivative from their academic work often proved useful. Interpersonal and communications skills frequently were cited as examples. In fact, the college major and college courses were surpassed only by on-the-job training as sources of the skills drawn upon in these youths' work.

On several important counts, then, educational decisions and experiences contribute to later occupational success. The strongest connection no doubt involves one's level of schooling itself, but this simply directs attention to the decisions and experiences that promote persistence in school, and our studies have identified numerous relevant factors. The accumulation of credentials, however, hardly exhausts the ways in which considerations from the educational domain spill over into the occupational. Our projects have identified at least two additional elements: the selectivity of the college attended; and one's field of study while in college.

All of this underscores the message that educational decisions and what one does in school do make a difference, and, moreover, that important decision points often will be encountered much earlier (with regard, for example, to factors that contribute to persistence in school) than one might have anticipated. It is especially important to recognize that educational decisions and commitments carry weight throughout the schooling process, and that putting off getting serious until late in senior high school may well be putting it off too long.

## Section III

### Wrap-Up

The answers to the preceding seven questions represent my attempt to organize what the eleven studies under consideration have to contribute to practical concerns about how career decisions are made and about how youth fare early in their work histories. I do not presume to have exhausted all that these projects might have to offer. Certainly, much more could have been said and done, and had another reviewer undertaken this task, the organization and content of the review might well have come out quite differently. This is said without apology, for such undertakings, of necessity, will reflect the judgment and sense of priorities of those to whom they are entrusted. This filtering process inevitably will leave the reviewer's imprint, no matter how self-consciously he or she attempts to maintain a low profile.

In organizing this material I have tried to remain faithful to the facts as these have been presented in the original sources and have tried to focus more on broad themes than on fine detail. The latter are likely to be less trustworthy, and their importance and implications often less clear-cut. Also, it's much easier to give vent to one's personal biases in picking and choosing among the minutia. For all these reasons, it seemed advisable to concentrate more on the general patterning of results and on issues of broad relevance. This was my objective; it is for others to decide how well I have done.

I began work on this project with few preconceived notions as to what would turn up. To be sure, I already was familiar with several of the

studies and was co-author of one; but my interest in the material up to that point was from a researcher's perspective. I must acknowledge, with some embarrassment, that I had given little thought to what might be of interest in them for a more general, practically-oriented readership. It thus was with some surprise, and a touch of personal satisfaction, that I found them to contain so much of immediate, practical relevance. Clearly, these studies do not offer all the answers, and, clearly too, their evidence on some issues is more sketchy and inconclusive than one would like. But it is unreasonable to expect all the answers from any such set of projects, and it is unreasonable, too, to expect clear-cut resolutions to issues of such great complexity. When evaluated against reasonable standards and reasonable expectations, these studies, as a group, more than pass muster.

What, then, have we learned from this undertaking? I'll try in these concluding comments to avoid a tedious re-hash of all that preceded, and will concentrate rather on those general conclusions of which we should be especially cognizant.

First, it is obvious that educational attainment, educational experiences, and educational decision-making all matter a great deal. It would be tragic if mistaken impressions to the contrary were to deflect youth from taking full advantage of the educational opportunities that might be available to them and from realizing the occupational benefits that tend to follow from persisting in school.

Second, it cannot be assumed that the actual course of career decision-making approximates at all the idealized models so prominent in the literature. Many youth give little indication that they are actively planning for the future and that they are aware of the connections between what is

happening to them in the present and what is likely to happen to them later. To relate to such youth as though they were rational actors for whom career planning is highly salient is to accord them more credit than they are due. Without some sort of corrective action, what eventuates for many will follow more from ignorance or resignation than from a well-conceived agenda for the future.

Third, it also should not be assumed that all that is required for effective career planning is to get youth to act like the future-oriented rational actors implied in models of the sort just alluded to. Having well-conceived goals no doubt is important, but youth also have to be prepared for the realities that await them out there in the real world. Few of us are so fortunate as to be entirely the makers of our own destinies, and youth will somehow have to contend with the various structures that have a great deal of bearing on how they will fare. Occupations and jobs often come pre-packaged, firms and labor markets have opportunities built into them, and individual careers acquire histories that constrain possibilities for the future. The ways in which organizational and structural arrangements may circumscribe individual self-direction need to be more fully appreciated and anticipated.

Fourth, optimizing often involves trading-off competing values. It is best that this be done, when possible, self-consciously and deliberately, rather than discovering too late that the blind pursuit of one particular goal has been at the expense of others. Our projects suggest several sorts of tradeoffs that might have to be entertained: prestige for earnings; earnings for opportunities to help others; career commitments for family commitments. Being foresighted about such matters may provide valuable

lead-time for working out arrangements to minimize whatever sacrifices have to be made. Even if loses cannot be avoided through advance planning, it at least is preferable that they be recognized and anticipated.

Fifth, and finally, it is clear that many factors contribute to the different levels of occupational success experienced by men and women, blacks and whites, and youth from low and high SES families. If our studies serve only to dispel the myth that a simple or single evil is at issue, this in itself would more than justify the effort. Simple solutions to complex problems sometimes can be of great value, but rarely will they provide adequate guidance for those who wish to promote positive change in the lives of individuals who must cope with today's realities. Research of the sort reviewed in this project is concerned fundamentally with these sorts of nitty-gritty details. Such work may not be especially exciting or glamorous, but if it tells us how we might do things better in the future than we have in the past, it nonetheless is of great value. I believe I've found many such potentially constructive hints in these eleven studies. Hopefully, I've been able to convey them adequately in the preceding pages.

## Appendix A

### The Panel of Practitioner Consultants

Participant List

| | |
|---|---|
| Dr. Robin [illegible], Counselor | Prince Georges County School System |
| Ms. Ellen Datcher | Division of Student Services, DC Board of Education |
| Ms. Valerie Ducker, Counselor | Wider Opportunities for Women |
| Mr. Rene Martinez, Counselor | Multicultural/Bilingual High School, Washington, D.C. |
| Dr. Lakin Philips, Director | George Washington University Counseling Center |
| Dr. Edouard L. Piou | University of District of Columbia's Career Development Office |

## Appendix B

Abstracts for Proposals Supported
by the Career Decision-Making Grants
Competition*

*Titles and authorship may be different on the final reports. These are provided in the legend to Chart 1.

PRE-OCCUPATIONAL PREFERENCES, AND OCCUPATIONAL ATTAINMENT: CAREER DEVELOPMENT THROUGH EARLY ADULTHOOD

Principal Investigator: Karl Alexander and Martha Cook
Department of Social Relations
Johns Hopkins University
34th and Charles Streets
Baltimore, Maryland 21218

Employing longitudinal data on a national sample of youth, various subsamples of which were followed from the 5th, 7th, and 9th grades to, respectively, high school graduation, one year post-high school, and three years post-high school, the proposed research will examine the processes through which pre-occupational interests are formed and subsequently translated into occupational preferences and attainments. A synthesis of psychological, sociological, and economic approaches to the study of career development processes will inform our analyses; in particular, the proposed research will seek to determine the relative importance of abilities, ascribed characteristics, interpersonal relations and environmental constraints for the development of adolescents' pre-vocational interests and their eventual occupational preferences and attainments. Structural equation modeling will be our major mode of analysis.

## FACTORS WHICH INFLUENCE THE CAREER DECISION-MAKING PROCESS

**Principal Investigator:** Arthur G. Cosby
Department of Sociology
Mississippi State University
Mississippi State, Mississippi 39762

This research proposes to empirically assess the career decision-making processes among rural youth in the Deep South. The foci of the problem is twofold. The first focus is on the development of a process model that combines the perspectives of "status attainment theory" from sociology and "developmental theory" from psychology. Such a model portrays a processual chain beginning with parental indicators of social origins, which are seen as affecting significant others influences (SOI). Social origins and SOI are then hypothesized to impart both upon adolescent career preferences and career-related preferences. These antecedent influences are subsequently examined for their effects upon early adult behavior. The model output is the consequential formation of early adult career and career-related preferences.

The second focus of the study is the conducting of race and sex comparison of career decision-making. Comparisons are made in terms of both processes and levels. Process analysis involves contrasting the relative effects of the variables in the model for each race-sex grouping to determine which factors have the greater importance in the decision-making process. On the other hand, level analysis or comparison indicate the relative magnitude of the variable levels across the study groups.

Data analysis will utilize longitudinal information collected under the auspices of the Southern Youth Study. Data is available on a panel of youth (N-1084) from predominately low incomes, rural counties (N=45) in the deep

South states of Alabama, Georgia, Louisiana, South Carolina, and Texas. Data obtained in a 1968 high school senior interview is used to obtain estimates of social origins, SOI, and career and career-related preferences. Similar information from a four-year follow-up in 1972 is used to estimate early adult behaviors and early adult career and career-related preferences. The panel is stratified by both race and sex.

The primary statistical techniques incorporated are path analysis, multiple analysis of variance (MANOVA) and analysis of variance (ANOVA). The path analytic technique assesses the efficiency and plausibility of the above posited causal system of interrelated variables regarding career decision-making processes. MANOVA evaluates the race-sex differences in the levels of each model variable. For the significant differences that exist, ANOVA is used to supplement the analysis by focusing on differences between specific variables.

## PERCEPTIONS, EXPECTATIONS AND CAREER FORMATION

**Principal Investigator:** Stephen P. Dresch
Institute for Demographic and Economic Studies
377 Orange Street
New Haven, Connecticut 06510

The central objectives of this study are to identify (1) the mechanisms by which perceptions of career opportunities and expectations regarding career outcomes are molded and constrained at various stages of the individual's career history; (2) the processes by which these perceptions and expectations are modified, (a) by individuals over the course of their careers and (b) by successive cohorts of individuals, in response to changes in the objective social and economic environment, e.g., in the labor market, and (3) the consequences for various subpopulations of discrepancies between perceptions and expectations, on the one hand, and actual events, on the other.

To achieve these objectives longitudinal data on a cohort first observed in high school and followed over a period of five years after high school, will be utilized, with one follow-up survey conducted as part of this study. These career histories, including subjective perceptions and expectations at various stages, will be analyzed in the context of an extensive set of state and change variables describing the social and economic conditions prevailing in local areas.

The study will be particularly concerned with factors underlying the changing career decisions, expected long-term labor market associations, and fertility expectations of women, although this will not constitute an exclusive focus. Also of particular interest is the assessment of the likely consequences of and responses to major prospective changes in the relative labor market conditions facing highly educated workers.

## A STUDY OF ENTRANCE INTO TYPE (SITUS) OF WORK: ANTECEDENTS AND SOCIOECONOMIC CONSEQUENCES

Principal Investigator: Linda S. Gottfredson
Center for Social Organization of Schools
Johns Hopkins University
3505 N. Charles Street
Baltimore, Maryland 21218

Vocational psychologists and counselors generally assume that job satisfaction and adjustment depend on a good match between a person's interests and the kind (situs or job family) of work he or she does. They have not examined, however, either the process of entry into or the socioeconomic consequences of entering one situs rather than another. Sociological and economic approaches to the study of career development focus on the antecedents and socioeconomic consequences of level or status of job held but they ignore situs of work. Recent work integrating the different approaches indicates that different situses may be different reward systems, some being more remunerative than others for a given educational level, and that blacks are found more often than whites in the least remunerative situses. Entry into situs of work thus appears to be an important but unexplored career decision.

This study will examine in detail (1) the pathways into different situses (Holland occupational categories), (2) the processes of income and status attainment within different situses, and (3) differences by race in situs entry, income, and status. Four sets of personal characteristics will be examined for their influence on entry into and advancement within different occupational stiuses: family background, personality (including ability), educational experiences, and labor force experiences. The analysis of entry into the different situses will include a multiple discriminant analysis to

discover which sets of characteristics and which variables within those sets best distinguish among workers in the different situses. The analysis of attainment processes within situses will include regressions of income and status on the four sets of personal characteristics to provide evidence on which sets of characteristics and which particular variables within those sets are most important in each of the situses for predicting differences in attainment. Survey data (Parnes and Grasso, 1975) on the employment experiences of young white men and black men will be used.

The proposed research will be useful to educators and policy makers in several ways. For example, it will provide more information about one occupational classification scheme that is widely used in planning and implementing career education programs. Also, it will provide more evidence about which educational and work experiences might be useful for different types of students planning their careers and for workers attempting to improve their careers.

## THE INFLUENCE OF SEX ROLES AND COGNITIVE STYLES ON THE CAREER DECISION MAKING OF COLLEGE MEN AND WOMEN

**Principal Investigator:** Vincent Harren (deceased)
Howard Tinsley
Department of Psychology
Southern Illinois University
at Carbondale
Carbondale, Illinois 62901

The primary objective of this research is to determine the effects of sex role attitudes and cognitive styles on the career decision-making process. The secondary objective is to develop guidelines and outlines for career decision-making training programs, designed to increase the career options and career decision-making competency of men and women. These guidelines will incorporate information obtained in accomplishing the primary objective.

In recent years there has been a greater awareness of the influence of sex roles on human behavior in general and career-related decisions in particular. Attitudes regarding the sex role appropriate behavior of women and men are gradually changing. Changes in sex role attitudes can have an important influence on the career decision-making of both women and men. However, the influence of sex role attitudes on career decision-making may not be direct. Recent research indicates that it may be mediated by differences in cognitive style. That is, the way in which women and men perceive, interpret, and respond to their environment may more directly influence their career decision-making than sex role attitudes. Finally, because sex role attitudes are changing, they may have a greater influence on career decision-making than gender, that is, being female or male. Thus, this project will determine the relative influence of sex, sex role attitudes, and cognitive styles on the career decision-making of college women and men.

College men and women, at each class level (freshmen through seniors), will be administered three sex role instruments, three cognitive style instruments, and an instrument measuring career decision-making stages. These students will be retested one year later to determine changes in attitudes, cognitive styles, and career decision-making. Retested subjects will be compared to respective classes of initially tested subjects on the same campus and on other campuses. Finally, non-college students, comparable in age and recency of high school graduation will be tested, and compared with the college student samples. These comparisons will determine the degree to which the findings represent developmental phenomena; the degree to which the findings can be generalized to other college student samples; and the degree to which they can be generalized to non-college student samples. Structured interviews will be conducted with selected students according to test score patterns to determine past career-relevant experiences and experiences during the interval between initial testing and retesting. These data, combined with changes in test scores over time will provide the basis for developing the guidelines and outlines for career decision-making programs.

It is expected that a greater understanding of the career decision-making process will accrue from this research. Furthermore, how career decision-making is influenced by sex roles and cognitive styles should be clarified. Finally, the career decision-making training programs should provide a method whereby educators and counselors can translate these results into programs of benefit to college men and women.

CONTINUING EDUCATION AND EARLY CAREER ATTAINMENTS: DETERMINANTS AND OCCUPATIONAL EFFECTS OF GOING BACK TO SCHOOL

Principal Investigator: Nancy Karweit
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Educational attainment plays a dominant role in the occupational attainment process. Typically, the estimates of the importance of educational achievements for occupational accomplishments have assumed that individuals complete their educational activities prior to labor force participation. Yet, it has been shown that a substantial proportion of Americans continue their education after beginning work. Consequently, these estimates are likely inaccurate to some degree and, because certain segments of the population may use continuing education more than others, these estimates may be less accurate for some subgroups than for others. The proposed research examines the issue of the occupational effects of continuing education by focusing on four issues: antecedents of stopping schooling; antecedents of resuming schooling; occupational effects, in terms of income, prestige and career patterns, of resumed educational activities; and the relative pay-offs of differing educational activities. The results should provide a better understanding of the nature of the education and work association, and should document how education, undertaken after entry into the labor market, affects later career developments. Specific attention will be given to black-white differences in the use and occupational effects of continuing education. The proposed analyses are possible because of the availability of the Life History Sample, a unique set of data covering approximately 20 years of experiences since age 14 of a

representative national sample of black and white men, that is rich in detail concerning various kinds of attachments to education and work.

## SEX DIFFERENCES IN THE CAREER DECISION-MAKING PROCESS

Principal Investigator: Martin Katz and Lila Norris
Developmental Research Division
Educational Testing Service
Princeton, New Jersey 08540

This research takes advantage of the unique opportunity provided by the System of Interactive Guidance and Information (SIGI) to look into the process of career decision-making. Using the behavior of students engaged in career decision-making; it examines (1) age and sex differences in process variables in career decision-making and (2) differences in major field of interest, information sought about occupations and careers, types of occupations and careers planned for, and types of preferred occupations for groups formed on the basis of sex and sex-typed values. The process variables are taken directly from or derived from the record of students' interactions with SIGI. They are grouped into five categories, namely, Values Clarification, Information Seeking, Prediction, Planning and Occupational Choice. These categories correspond with the major subsystems of SIGI and represent crucial elements in the structure of career decision-making that is provided by SIGI. The data for the study are being collected automatically at six colleges throughout the country as part of a field trial of SIGI. The sample consists of a random selection of 360 reports drawn in equal numbers from each of the six colleges.

THE CAREER DECISION-MAKING PROCESS OF RECENT COLLEGE GRADUATES: RELATIONSHIPS BETWEEN PERSONAL TRAITS, EDUCATIONAL EXPERIENCES, OCCUPATIONAL OUTCOMES AND LEISURE

Principal Investigator: Lewis C. Solmon
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Los Angeles, California 90024

This study will survey and analyze data from 25,000 individuals, college freshmen in 1970, to explore and evaluate the process by which these new entrants into the labor force make career decisions. The extent to which these employees utilize their college training will be assessed, as will the aspects of the college experience which are useful in occupations.

Factors that determine selection of major and occupation will be studied: these include sources and types of information available to former students, as well as their goals and values. One underlying question is the extent to which labor market factors affect these choices. The occupational selection process will not be evaluated merely by the degree of interface between education and job; rather, the final verdict will depend on job satisfaction and income on the one hand, and satisfaction with recent educational experiences on the other. We shall also investigate the relationship between satisfaction with occupation and satisfaction with leisure and other aspects of non-occupational time.

This research builds upon a recent study of an older group of workers which found substantial utilization of education in occupations and significant job satisfaction. The interface between education and work did not appear to affect job satisfaction or income. An important question to ask is

whether the positive evaluation of higher education derived from the analysis of older workers still exists when referring to a younger group, given the recent economic recession and publicity about the alleged declining value of college.

Our study builds upon data already available on the group to be studied, collected in the freshman year (1970), and in the 1974 follow-up of 1961 freshmen. We will analyze differences by sex, race, major, and occupation, among those with B.A.'s and A.A.'s and those who did not complete any program.

## CAREER DEVELOPMENT AMONG COLLEGE GRADUATES

Principal Investigator: Joe Spaeth
Survey Research Laboratory
University of Illinois
414 David Kinley Hall
Urbana, Illinois 61801

The proposed research would investigate the determinants of three career outcomes among college graduates: earnings, job satisfaction and career instability among women. The data set to be analyzed would be the NORC five-wave longitudinal survey of 1961 college graduates.

Determinants of earnings would be incorporated in structural equations models with earnings as dependent variables at three stages of the early career development of college graduates: one year, three years, and seven years after graduation. In addition to standard independent variables such as labor force experience, occupational status and employment sector, the effects of career expectations, advanced education, and self-reported ambition would be estimated. For 1964, three years after graduation, effects of such job characteristics as size of firm, hierarchical position, and degree of control over own and others' work would be incorporated in the earnings models.

Analysis of earnings data would be carried out separately for males and females and for blacks and whites. A model common to the two races and two sexes would also be constructed, and differences between coefficients by sex and race would be tested by analysis of covariance. The research would answer the following question: Net of the effects of advanced education, occupational status, employment sector, and personal and job characteristics, what are the "costs" of being a black or female college graduate?

Job satisfaction, which was measured one and three years after graduation, would also be analyzed through structural equations methods. Independent variables would include advanced education, occupational status, earnings, the job characteristics mentioned above, and negative self-image, plus perceived challenge, co-worker contacts, and "comfort" as characteristics of the job. Separate analyses would be carried out by race and sex.

In connection with research on differences in occupational achievement among college graduates, the proposed Principal Investigator has discovered that women had less stable occupational expectations and seemed less able to convert occupational expectations into reality than men. Further investigation has revealed that only women in education are as likely as men to be working in jobs that they earlier reported as expecting to hold. The proposed research would investigate whether women's career instability was characteristic of each period of career development (from the freshman year in college to seven years after graduation). It would discover the extent to which women's career decisions were more unstable than men's at each stage, the extent to which career field turnover differed from chance for the two sexes, and which, if any, fields besides education were high-stability fields for women. The effects on stability of career commitment and interrupted labor force participation and advanced schooling would also be estimated.

## SEX-ROLE VALUES IN THE CAREER DECISION-MAKING PROCESS

**Principal Investigator:**

Carol K. Tittle
The University of North
Carolina at Greensboro
Greensboro, North Carolina 27412

Career education and career decision-making models have typically included two broad areas: 1. knowledge about occupations and education; and 2. values related to occupations. This view of the content of career decision-making has been challenged by data on the occupational segregation of women and the different career patterns found for women and men. It is argued that a third area is necessary for a valid theory of career decision-making: values related to sex roles in American culture.

Psathas (1968) has suggested that aspects of the sex role have direct implications for the types of occupations women enter and women's career patterns. The present study is intended to provide a definition of the domain of values related to sex roles and to examine the values held by high school students for important aspects of occupational and sex roles. The project will determine whether there is a set of sex-role related values that can be defined and that individuals can discriminate among. High school students in grade 11 will be individually interviewed to develop and test the set of sex-role related values. Subgroups of the population (groups classified by sex, socio-cultural background, and economic status) will be asked to rank and rate both sex-role related and occupationally related values. Comparisons of the subgroups will show values held in common, as well as the overlap between the value sets. The "product" of the research will be a set of terms,

operationally defined, which can be used in further research and also directly applied to the development of new materials and instruments in career education programs. The clarification of values related to both sex roles and occupational roles is a necessary precondition to a valid theory of career decision-making for both women and men.

IMPACTS OF COLLEGIATE EXPERIENCE AND PARENTAL SOCIALIZATION ON CHANGES DURING COLLEGE IN UNDERGRADUATES' CAREER ORIENTATIONS AND PREFERENCES

Principal Investigator: John C. Weidman, Director
Institute for Higher Education
University of Pittsburgh
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Pittsburgh, Penn.

The purpose of the proposed study is to assess the impacts of selected aspects of the collegiate experience on changes in undergraudates' occupational preferences and personal goals. The study focuses on two general aspects of the student's participation in a four-year college or university environment; the social structure, particularly its normative aspect, as defined by the orientations of faculty and students toward the purposes of a college education; and the individual student's perceptions of the institution's capacity for facilitating the attainment of personal goals.

A major departure from much of the extent research on college impact is that close attention is paid to the concomitant influences of parental socialization that are present throughout the student's college days. While much has been made of occupational inheritance among adults (that is, the tendency of children to overchoose occupations held by parents), additional aspects of the parental socialization process are considered, notably life style and modes of parent-child relationships that contribute to adult development. An important aim of the proposed research is to determine the extent to which college effects on students' occupational orientations and preferences are mediated by parental socialization and parent child relationships maintained, in many instances, through continued contacts with parents during the student's college years.

The study is intended to contribute to research focusing on collegiate

impact on occupational matters, and, more generally, on socialization in organizations. On one level, it deals with situational and individual developmental constraints on the choices made by participants in an organizational environment. On another level, it explores a set of socialization processes, concentrating largely on the impact of normative contexts and interpersonal relations among an organization's members. It investigates the joint impacts of a) the normative influences exerted by faculty and peers, b) the perceptions held by students concerning various salient aspects of their collegiate experience, and c) the persistence of parental socialization impacts during college despite influences brought to bear upon students by participation in the more immediate campus social structure.

A primary aim is to contribute further specification to the general research findings about educational impacts that suggest that family background factors tend to be more potent predictors of impact than are most aspects of the educational setting by assessing effects of parent-child relationships as well as family educational and occupational characteristics. The study attempts to provide additional insights into a set of socialization processes, thereby contributing to the elaboration and extension of existing socialization theory, particularly as it relates to occupational development.